EFFECTIVENESS OF MUSIC THERAPY ON PAIN AMONG CHILDREN UNDERGONE SURGICAL PROCEDURES IN INSTITUTE OF CHILD HEALTH AND RESEARCH CENTRE AT GOVERNMENT RAJAJI HOSPITAL MADURAI

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BRANCH II – CHILD HEALTH NURSING

COLLEGE OF NURSING, MADURAI MEDICAL COLLEGE, MADURAI -20.

A dissertation submitted to

THE TAMILNADU DR.M.G.R. MEDICAL UNIVERSITY, CHENNAI - 600 032.

In partial fulfillment of the requirement for the degree of

MASTER OF SCIENCE IN NURSING

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ABSTRACT

Title: Effectiveness of Music Therapy on Pain Among Children Undergone Surgical Procedures In Institute of Child Health and Research Centre At Government Rajaji Hospital Madurai.**Objectives** :Assess the level of pain among children undergone surgical procedures in experimental group and control group. Evaluate the effectiveness of music therapy on pain among children undergone surgical procedures in experimental group. Compare the post test level of pain among children undergone surgical procedures in experimental group and control group.Associate the post-test level of pain among children undergone surgical procedures with selected demographic variables in both groups.**Hypotheses : T**here is a significant difference between the level of pain among children undergone surgical procedures,of experimental group after music therapy.There is a significant difference in the post test level of pain among children undergone surgical procedures in experimental group and control group.There is a significant association in the level of pain among children undergone surgical procedures with selected demographic variables in both groups. **Conceptual Framework:**Based on Modified Imogene King's Goal Attainment Theory (1981)**Methodology:**A True experimental design used to select subject 30exprimental and 30 control group by simple random sampling at GRH Madurai. Pre test was conducted by Visual analog scale after obtaining consent, Music therapy given 15 - 20 minutes twice a day for second and third post operative days. Post test was assessed for both group using same tool. **Findings:** The studysuggested that post test pain level less then the pretest pain level.**Conclusion:** The study concluded that Music therapy is cost effective, noninvasive, non pharmacological complementary and alternative therapy to reduce the level of pain among children undergone surgical procedures.

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LIST OF ABBREVIATION

MT	–	Music Therapy
MTPS	–	Music alternate engagement
PIVA	-	Peripheral intravenous Access
FLACC	–	Face, legs, activity, cry and consolability
VAS	–	Visual Analogue scale
WBS	–	Wong Baker Scale
CBM	–	Cognitive behaviour method
POMS	–	Profile of mood status
VRS	-	Verbal rating scale
BP	-	Blood pressure
HR	–	Heart rate

Introduction

CHAPTER-I

INTRODUCTION

"Too often we under estimate the power of a touch, a smile, a kind word, a listening ear, an honest compliment, or the smallest act of caring, all of which have the potential to turn a life around."

- Leo Buscaglia

Pain is a feeling of distress, suffering or agnoy, caused by stimulation of specialized nerve endings. Its purpose is chiefly protective and induces the sufferer to remove or withdraw from the source. The role of nurse is vital in the assessment and management of pain experienced by children during hospitalization. Although many disciplines are involved in pain management, nurses have the responsibility to assess the children's overall medical status by highlighting the children needs to other members of the healthcare team and nurses spend more time with children than other healthcare providers.

Pain is an "unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage".

- international association for study of pain

Music

"Music soothes us stris up;
It puts nobles feeling in us;
It melts us to tears, we know not how"

- Charles kingsley.

Music is the tool with in music therapy used to alleviate pain perception. Music is a human activity, which involves structured and audible sounds, which is

used for artistic or aesthetic, entertainment or ceremonial purposes. Definitions vary in different cultures and social milieus.

Recorded history relates stories of humankinds' use of music to soothe the body, mind and spirit. This corresponds with the definition of pain as an emotional quality as recorded by Aristotle. As a movement of research toward specificity began, research found that music has also been found to alter mood and elicit relaxation responses and also music as a distraction is able to alter thoughts, emotions, or mood by inducing relaxation (Magill-Levreault, 1993). Music alters specific physiologic responses, such as heart rate and respiration rate (Lusk and Lash, 2005).. Music is able to elicit pleasure, which is assumed to motivate (Stige, 2006). Music, as is pain, is a subjective sensory and emotional experience. Response to music, as to pain, is based on past experience and/or present state of mind.

Music Therapy

Music therapy is the skillful use of music and musical elements by an accredited music therapist to promote, maintain, and restore mental, physical, emotional, and spiritual health. Music has nonverbal, creative, structural, and emotional qualities. These are used in the therapeutic relationship to facilitate contact, interaction, self-awwereness, learning, self-expression, communication, and personal development.

- Canadian Association for Music Therapy.

Music Therapy is an established healthcwere profession that uses music to address physical, emotional. cognitive, and social needs of individuals of all ages. Music therapy improves the quality of life for persons who were well and meets the

needs of children and adults with disabilities or illnesses. Music therapy interventions can be designed to:

- promote wellness
- manage stress
- alleviate pain
- express feelings
- enhance memory
- improve communication
- promote physical rehabilitation

- *American Association of Music Therapy (1970)*

Pain in Children: Specific Issues

During the last decade it has been recognized that research in pediatric pain has been a minority field and that pain in children has been highly undertreated. Although there is an increasing amount of research on pediatric pain in the literature, a large discrepancy remains in the proportion of adult- versus child-focused research on pain and hospital experiences in general.

In 1977, Eland and Anderson reported that only 2.4 % of papers published in the werea of pain dealt with pediatric pain. An analysis of the titles of articles published in 1992 in the Journal of Pain and Symptom Management showed a more positive picture: 7.8% of all the papers were devoted to pediatric pain. However, when other journals were considered, the outcome was not as high. During the same period, only 2.3 % of the papers published in Pain were related to pediatric pain (Guardiola & Banos, 1993). An analysis of biomedical articles listed in the Medline Database between 1981 and 1990 indicated a growing interest in pediatric pain:

papers devoted to neonatal pain have increased fourfold and those regarding infant pain threefold. However, increases in articles devoted to children (2-12 yr) and adolescents (13-18 yr) were much smaller in number and were comparable to those observed for the pain field in general (Guardiola &Banos, 1993).

Under treatment of Pediatric Pain

Many myths have led to serious under treatment of pain in children. For instance, large discrepancies have been reported between the amount of postoperative analgesia administered to adults and that administered to children who have the same diagnoses and who have undergone the same medical procedures (Walco, Cassity, & Schechter, 1997).Only recently have these myths been discredited (Ross & Ross, 1984; Walco et al., 1997; Zajdeman & Biedermann, 1991).

Myths About Pain in Children

"Young children do not feel pain."

Until recently, health cwere professionals were convinced that young children could not feel much pain. Underpinning this belief was the assumption that the nervous systems of young children are immature and, therefore, less sensitive to noxious input. Children's screams were said to stem from fear more than from pain. It has been found, however, that at 30 weeks of gestation, pain pathways and the parts of the brain involved in pain perception are well developed. Pain pathways to the central nervous system, for example, are completely myelinated from the 30th week of gestation on, allowing for a normal conduction speed in the nerves (Kuttner, 1996; Volpe,1981; Walco et al., 1997). It is also known now that the younger the child, the lower the threshold for pain (Zajdeman & Biedermann, 1991).

Furthermore, a child's level of understanding may mean that he or she is unable to comprehend what is causing the pain. A child may, therefore, experience more pain than an adult in a similar situation(Waycross, 1998). Despite this knowledge, circumcisions on newborn males, for example, continue to be performed without adequate analgesia. Several behavioral and physiological responses of distress are apparent when infants are circumcised without analgesia, including loud screaming and significantly elevated blood pressure, heart rate and cortisol levels. (P.A. McGrath, 1990).

"Children have no memory of pain."

It was furthermore believed that if children did feel pain, they would not remember it and, therefore, it would have no lasting effect. Recent studies, however, have indicated that pain does endure in the memory of infants and children (Walco.et.al., 1997; Zajdeman & Biedermann, 1991). Long-term memory requires adequate functioning of the limbic system and the diencephalon, both of which are well-developed and functional at birth (Zeltzer, Bursch, & Walco, 1997). By the age of 6 months infants consistently avoid potentially painful stimuli; this demonstrates infants' memory for pain by that age (P.A. McGrath, 1993).

" Children get addicted to opioid analgesics."

Many studies have found that medical and nursing staff, because of an ill-founded fear of the effects of opioids and addiction, have been giving children and infants significantly less opioid medication than adults for similar pain conditions (Kuttner, 1996; P.J. McGrath & McAlpine, 1993).Pwerents have been found to decline medication for their child's pain possibly because they fear that their child

will become accustomed to using drugs to solve other problems (P.J.McGrath & McAlpine, 1993).

It is important, however, to make the distinction between physical dependence and addiction. When analgesics are administered appropriately, the risk of addiction is minimal. Unlike adults who take drugs for pleasure, children will not become addicted when they take medication to combat pain. A physical dependence may indeed develop, but a gradual reduction in the medication, after the pain has subsided, is used to control withdrawal symptoms (Kuttner, 1996; Walco et al., 1997).

Related to this issue is the fear that opioids could adversely affect the respiratory abilities of children. Although this concern may be valid in some cases, there are no dataavailable to support the notion that children are more susceptible to opioid-related respiratory suppression than adults (Walco et al., 1997).

“ Children cannot accurately report on their pain."

Another misconception is that a child's pain cannot be assessed accurately: a child cannot be considered as a trustworthy communicator of his or her pain. Therefore, adults rely on their own observations rather than on the child's self-report to assess the child's pain. Parents and healthcare professionals, however, often misinterpret clear signs of pain in children. P.J. McGrath and McAlpine (1993) suspect that denial on the part of the adult may be a possible factor in this underassessment.

Several studies have indicated, however, that children from the age of five years on are reliable reporters of their own pain experience. To explain their pain,

younger children need to be asked where they are hurting. It is also of utmost importance that assessment questions be asked in age-appropriate language. Adequate pain assessment is indeed a complicated matter, but there are many good, comprehensive pediatric pain assessment tools available which are based on physiological measures, behavioral observations and self-reports (Finley & McGrath, 1998; P.J. McGrath & McAlpine, 1993; Varni, Walco & Katz, 1989)

"A playing child is not in pain."

A huge misconception that is still prevalent is that if a child can be distracted, he or she is not in pain. Distracting a child from the pain indicates that the child is able to use cognitive strategies to move away from the pain, however, distraction does not exclude the existence of pain (Kuttner, 1996). According to McCaffery and Beebe (1990), increased activity is often a sign of pain; it is the way children cope.

Effect of music on various organs of the body

Respiratory system.

Music balances the heart rate, and respiratory rate. Peripheral vascular flow is increased due to vasodilatation. A variety of muscles become active while listening to music, diaphragm, abdominal, intercostals, respiratory accessory, facial and occasionally muscles in the arms, legs and back. Soothing music acts as a muscle relaxant also.

Cardiac Exercise

Music is equivalent to “an internal jogging” music can provide good cardiac conditioning. It balances the heart rate and blood pressure.

Pain Reduction

The effect of music stimulates the secretion of beta endomorphines in the brain, thus affecting pain receptor sites on nerve cells and reducing pain sensations. 10 minutes of listening to relaxing light music has an anaesthetic effect and would

give at least 2 hours of pain-free sleep, also decreases pain threshold. Music allows a person to forget about pains such as aches, arthritis. Music also reduces sedimentation rates there by reduces the inflammation in the body.

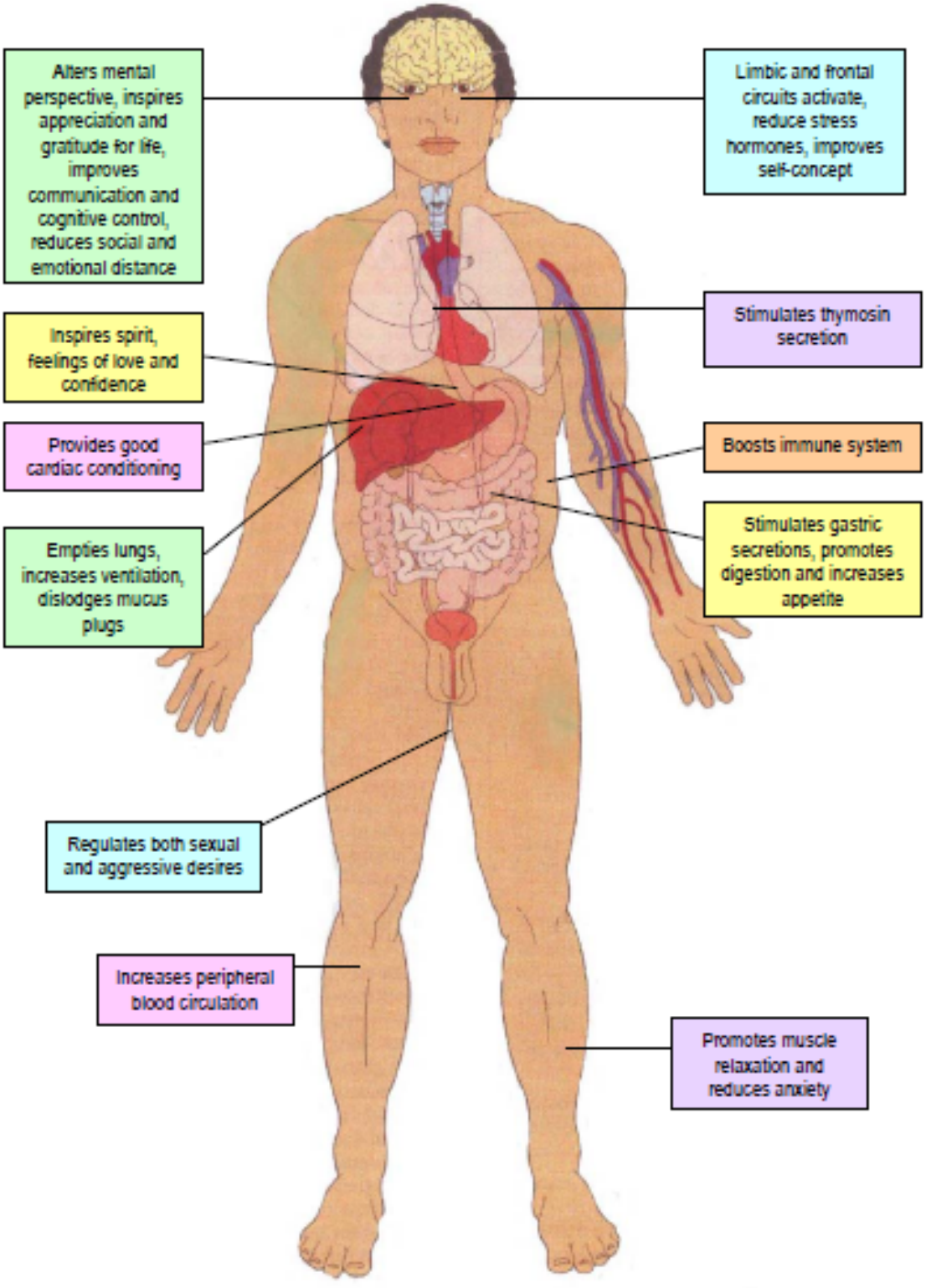
Music decreases 'stress' hormones

Music lowers epinephrine and dopamine level (as measures by dopac) involved in the fight and flight' response, and is associated with elevated blood pressure. Music reduces at least four neuroendocrene hormones associated with stress response. These were epinephrine, cortisone, dopamine and growth hormone. Music is a powerful antidote to stress.

Music promotes recovery from illness

Music is a pleasurable experience; it momentarily banishes feelings of fear and anger. It gives us a feeling of power and control. We feel cwere free, light hearted and hopeful during the moments of listening to light music. These feeling may have therapeutic benefits by reversing the immunosuppressive effects of the emotions of anger, fear or loneliness which often accompany hospitalization and recovery from illness.

Care givers can express their understanding and appreciation of the patient's struggle through the use of music. As nurses find ways to develop the natural resources of music and tears into their work with patients and families, they will experience further benefits in stress management and emotional support. Music can create an environment where hope can flourish because it provides a sense of joy, helps us connect with family and friends, and inspires an appreciation and gratitude for life.



Spiritual effect of music

Spirit can be defined as the vital essence for animating a living organism, often considered divine in origin. Spirit can also be regarded as vivacity or energy. Music, on all levels, therefore is something that flows, involving basic characteristics

of the individual which express themselves in the body, in moods and emotional reactions, and in qualities of feeling of mind and spirit. The qualities of music and spirit are similar and inter dependent. As cwere givers we offer therapy, to facilitate the healing processes within the body. To be most effective, we must direct our efforts to touch the body, mind and spirit.

Resolve inter personal conflicts

Music can be effective methods of facilitating inter personal conflict resolution. By discharging anger- and fear- generated tensions, they can create the condition for constructive action planning.

Affect mental outlook

Music and tears have the capacity to "clear the head" and alter mental perspective. They facilitate a transformation of feelings of helplessness and negative expectancy into feelings of motivation to make choices and solve problems.

Music reduces anxiety

After the initial stimulation of music resulting in muscular contraction, relaxation occurs not only in the skeletal muscles, but also in the cardiovascular system. The efficiency of respiratory system is also increased. Muscle relaxation and anxiety cannot exist together.

Music regulates both sexual and aggressive desires

Studies have viewed music as a regulator of both sexual and aggressive desires. As such it is the outcome to repressed sexual and aggressive impulses pushed into the subconscious. The jokes including music release then from the reserves of

psyche energies and once it is delivered from the process of repression can be halted as a safe outlet has been found.

Music releases tension

Tension accompanies painful emotions of fear, anger and sadness, listening to music for 10 minutes is often more beneficial to and supportive of an emotionally upset patient or family member than an hour's lecture on proper ways of feeling and coping. This can be an effective self-care tool.

Music relieves loneliness

Loneliness implies a longing for companionship, wish not to be alone. Listening to music allows us to perceive and appreciate incongruities of life, and provides moments of joy and delight.

Psychological impact of music

Music creates a more relaxed atmosphere. It can also help to reduce anxieties, tensions, natural fears and worries by providing a safe and acceptable outlet for pent up emotions. For depressed persons music can provide more positive frame of reference, helping to deal with disappointments and feelings of guilt and to strengthen self-esteem. Music also allows for objective self-analysis without risking the loss of face. It also serves as an escape or defense mechanism that people use to avoid anxieties.

Music and the effect on mind

Music perception involves the whole brain and serves to integrate and balance activity in both hemispheres. Music pulls the various parts of the brain together rather than activating a component in only one area. Music has the capacity to "clear the

head" and alter mental perspective. Music facilitates the transformation of feelings of helplessness and negative expectancy into feelings of motivation to make choices and solve problems. Narrow-mindedness or tunnel vision restricts the perception of one's range of options. Psychosis, a "hardening of attitudes," is a potent cause of stress related pathology. Music can alter perspective, uncover options and help restore a sense of motivation in the process. Relaxing music soothes the CNS.

Music reduces social and emotional distance

In healthcare settings music helps to reduce fear of the unfamiliar hospital settings and encourages a sense of trust. Music is an effective tool when establishing nurse-patient relationship. Music is a natural and acceptable vehicle for communicating feelings such as embarrassment, anger and frustration. Light music during stressful work especially ICUs, OT, labour room, OPD, wards and post operative room etc. helps nurses to cope with their work and create a better atmosphere in the ward. Music gives us perceptual flexibility and thus can increase our cognitive control.

Music gives maximum relaxation:

Music soothes the central nervous system. It lowers epinephrine and dopamine levels involved in the fight and flight response, and is associated with elevated blood pressure. It reduces at least four neuroendocrine hormones associated with stress response. Music effects involve the whole brain, serve to integrate and balance actively in both hemispheres.

Music improves communication:

Music helps to improve communication in 3 ways:

- It captures the attention of the learner.
- It enhances the retention of the material.
- It helps release the tension that blocks communication.

Music helps to reduce social and emotional distance. Music is a natural and an acceptable vehicle for communicating feelings such as embarrassment, and frustration. Nurses should encourage its use.

1.1.NEED FOR THE STUDY

"Pain is such an uncomfortable feeling that even a tiny amount of it is enough to ruin every enjoyment"

- William Rogers

Pain is the more terrible lord of mankind than even death itself today. Pain has become the universal disorder, a serious and costly public health issue, and a challenge for he family friends, and healthcare providers who must give support of the individual suffering from physical as well as the emotional consequences of pain.

Nurses are primarily responsible for providing pain relief in the healthcare area. So by participating in research projects nurses become leaders in their own departments by working to improve nursing practice and patient care. The nursing researcher will mentor a clinical nurse through data collection, analysis and through the publication process. Once published the nurses have the opportunity to present their findings at national meetings there by influencing patient care and nursing practice at a national level. Research provides opportunity to further gain knowledge and recognition.

A cross sectional survey was conducted in the USA among 170 children recovering from surgery in two major teaching hospitals along with an analysis of analgecs medication prescribed and administered. Analgesic medication was not ordered for 16% of the patient and narcotic analgesic medication ordered was not given for 39% of the patients. In 29% of the patients, where an order for ―narcotic or non-narcotic analgesic medication‘ was written, the non-narcotic drug was given exclusively. The result showed that irrespective of the treatments received, only 25% of the patients were pain free on the day of surgery and 13% reported severe pain. By the first postoperative day, 53% reported no pain but 17 still reported severe pain and the research concluded that there is considerable scope to improve pain management in children after surgery. This improvement must be based on improved education of medical and nursing staff in contemporary clinical pharmacology and non pharmacological methods.(National health survey)

Several studies from North America indicate that nurses underestimate the amount of pain experienced by children. The issue was examined by comparing the pain ratings of 100 children 3–15 years of age following tonsillectomy. The ratings were obtained by using the poker chip tool and a 10-cm visual analogue scale. In general, nurses underestimated the children's pain. The nurses tended to overestimate the effect of analgesics. Although the correlations between the children's and the nurses' pain scores were statistically significant the findings indicate that the nurses are not good at interpreting the patients' pain.(Danish children and nurses association).

In india Many studies demonstrate inadequate pain treatment in children. The aim of this nation wide survey was to evaluate the prevalence of acute and

postoperative pain in children; extent of, and reasons for, inadequate pain therapy; therapy methods; pain-management structure; and the need for education of healthcare professionals. The response rate was 75% (299/395). Answers from physicians and nurses showed that, despite treatment, moderate to severe pain occurred in 23% of patients with postoperative pain and 31% of patients with pain of other origin. Postoperative pain seemed to be a greater problem in units where children were treated along with adults and in departments where fewer children were treated.

According to a post operative pain management survey conducted among nurses, only 4 out of 177 nurses used non-drug pain management to assist patients with pain (Wessman & McDonand, 1999). There is certainly room for all nurses and nursing students to invest more time into learning about alternative post operative pain management methods. Methods with strong research backing their efficacy in children (Tracey et al., 2006) are massage, music, guided Imagery, distraction and patient education.

Diversion as a post operative pain management tool encompasses a host of possible interventions. This includes music, guided imagery, game playing, and watching TV. One nurse involved in pediatric pain studies found that the use of distraction was so effective that the research became contaminated by caregivers using it more frequently than called for in the study (Stubenrauch, 2007).

Children‘s are easily diverted. This may explain the mistaken belief dating back to the 60′s that child didn‘t experience pain in the same way as adults and therefore didn‘t need aggressive pain management (Swafford & Allen, 1968). That

children can be temporarily distracted from their pain doesn‘t mean that they don‘t experience pain or that the pain doesn‘t return once the diversion is removed.

Diversion has varying levels of effectiveness depending on the patient. It does have the benefit that it can be utilized by every member of the pediatric patient‘s care team, including the patient herself. In fact, providing the patient with a choice of distractions may allow for the most effective distraction to be chosen.

At Institute of Child Health and Research Centre, Government Rajaji Hospital, Madurai, an average of 900-1000 children irrespective of age are admitted in the pediatric medical and surgical ward. In approximately per year 585 children were undergone surgery, 90% of them require a analgesic to reduce post operative pain. The present study proposes to determine the effectiveness of music therapy on pain among the children undergone surgeries.

1.2.STATEMENT OF THE PROBLEM

A study to assess the effectiveness of music therapy on pain among children undergone surgical procedures in Institute of Child Health and Research Centre at Government Rajaji Hospital Madurai.

1.3. OBJECTIVES OF THE STUDY

1. To assess the level of pain among children undergone surgical procedures in experimental group and control group.
2. To evaluate the effectiveness of music therapy on pain among children undergone surgical procedures in experimental group.
3. To compare the post test level of pain among children undergone surgical procedures in experimental group and control group.

4. To associate the level of pain among children undergone surgical procedures with selected demographic variables in both groups.

1.4 HYPOTHESES

H_1: There is a significant difference between the level of pain among children undergone surgical procedures, of experimental group after music therapy.

H_2: There is a significant difference in the post test level of pain among children undergone surgical procedures in experimental group and control group.

H_3: There is a significant association in the level of pain among children undergone surgical procedures with selected demographic variables in both groups.

1.5.OPERATIONAL DEFINITIONS:`

- **Effectiveness**

In this study refers to effectiveness is intended outcome of the music therapy on pain among children undergone surgical procedures, which was measured through visual analog scale.

- **Music therapy**

In this study refers to music therapy is a rhythmic and melodious tune of selected Indian classical music recorded in a cell phone and administer through the head phone, for 15-20 mins twice a day in second and third post operative day to divert the attention from pain perception.

- **Pain**

In this study refers to pain is a unpleasant feeling or discomfort felt by children undergone surgical procedures, which is measured by visual analogue scale

and also monitored the physiological parameters (pulse, respiration, and blood pressure).

- **Children 6-12years**

In this study refer to Children between 6-12 years of age undergone surgical procedures, admitted in post operative ward.

- **Surgical procedure**

In this study refer to the surgical procedure refers to major abdominal surgeries.

1.6 VARIABLES

Independent variable - music therapy

Dependent variable - pain

1.7 ASSUMPTIONS

The study assumes that:

- Children who are undergone surgical procedures were susceptible to develope post operative pain.
- Music therapy may not induced any adverse reaction to the children.

1.8 DELIMITATIONS

The study is delimited to:

- The sample size was limited to 60.
- The data collection period was limited to 6 weeks
- The study is limited to the post operative children (6 -12 years) who have undergone major abdominal surgery.

1.9 PROJECTED OUTCOME

The findings of the study can help the investigator to assess the effectiveness of music therapy in reducing the level of pain among children undergone major abdominal surgery.

Review of Literature

CHAPTER - II

REVIEW OF LITERATURE

Review of literature is a key step in research process. The literature review is to discover what has previously been done about the problem to be studied what remains to be done, what methods have been employed in other research and how the result of other research in the area can be combined to develop knowledge.

It is essential step; it can be done before and after selecting the problem. It can help to determine what is already known about the topic (A.P.Jai, 2005)

.

This chapter deals with two parts:

Section -A: Review of literature related to studies.

Section-B: Conceptual framework based on Modified Imogene King's Goal Attainment Theory (1981)

This chapter attempts to present a review of studies done methodology adopted and conclusion attained by earlier investigators which helps in this study. The sources are internet search, textbook, published journal, editorials published and unpublished thesis.

SECTION - A

In this chapter, the researcher presents the review of the literature under the following headings

2.1 Literature related to pain among children undergone surgical procedures.

2.2 Literature related to Non pharmacological management of postoperative pain in children.

2.3 Literature related to effects of music therapy in children.

2.4 Literature related to effects of music therapy on pain among children undergone surgical procedures.

2.1. LITERATURE RELATED TO PAIN AMONG CHILDREN UNDERGONE SURGICAL PROCEDURES.

Deborah Tomlinson, M (2009) A prospective descriptive correlational study to compare the Faces pain scale and analogue scale in AIIMS, New Delhi among children aged 6 to 12 years undergoing selected procedures.The objective of the study is to compare the procedural pain in child as perceived by the child , parents and health professionals.181 samples were selected by simple random sampling technique.The results revealed that there was a significant positive correlation ($r > 0.8$) between both the pain scales.The study concluded that Faces pain scale and Analogue scale are appropriate instruments for measuring pain intensity among Indian children aged 6 to 12 years undergoing selected procedures.

Lillian Sung, PhD (2008) A retrospective study to determine if there is regular assessment of children's pain ,pain management and postoperative progress at Cariboo,Canada.Children aged 5 to 17 years ($n=36$) measured their pain every four hours post operatively using the Wong-Baker Faces Pain Rating scale. Outcomes regarding amount of analgesic given , subjective pain reports , and progress of ambulation were compared with a control group.The study results revealed that despite all children having prescribed analgesic orders, one quarter of the children received no pain relief intervention .Also , one quarter of the children stated that their pain control was only partially effective.The study concluded that there is ineffective

pain management in children and highlights a need for improved nursing practice , in terms of increased awareness of pediatric pain management practice.

2.2.LITERATURE RELATED TO NON PHARMACOLOGICAL MANAGEMENT OF POSTOPERATIVE PAIN IN CHILDREN

Ewa Idvall.et.al, (2009) did a study on Pain experiences and non-pharmacological strategies for pain management after tonsillectomy: a qualitative interview study of children and parents Tonsillectomy is one of the most common pediatric surgical procedures. This study aimed to investigate children's experience of pain and the non-pharmacological strategies that they used to manage pain after tonsillectomy. A further aim was to investigate parental views on these same phenomena. Six children (aged seven to 18 years) and their parents (four mothers and two fathers) were interviewed separately on the day after tonsillectomy. The data were analyzed using a qualitative approach. Pain experiences were divided into the categories of physiological pain and psychological pain. Children rated their 'worst pain' during the past 24 hours between 6 and 10 (visual analogue scale, 0-10). The non-pharmacological strategies used most frequently to manage pain were thermal regulation (physical method) and distraction (cognitive-behavioural method) according to the framework used. Specific non-pharmacological strategies for pain management relative to different surgical procedures need to be considered.

Päivi Kankkunen M.Sc RN,(2003) Pwerents' use of nonpharmacological methods to alleviate children's postoperative pain at home .Nonpharmacological methods are stated to be effective in alleviating children's postoperative pain when used as an adjuvant to analgesics. However, little is known about how these methods are used by parents at home. The purpose of this study was to describe parents' use of

nonpharmacological methods at home in 1–6-year-old children's pain alleviation after minor day surgery. Mothers (n = 201) and fathers (n = 114) whose child had undergone day surgery in 10 Finnish hospitals between October 2000 and September 2001 filled in a questionnaire including a Visual Analogue Scale, Parents' Postoperative Pain Measure and a subscale consisting of 25 items measuring parents' use of several nonpharmacological pain alleviation methods with their children at home after day surgery. The most frequently used nonpharmacological pain alleviation methods were holding the child on the parent's lap, comforting the child and spending more time with them. Differences were found in mothers' and fathers' use of these methods. In addition, several methods were used more with girls than with boys. Significant relationships were found between parents' use of nonpharmacological pain alleviation methods and children's pain intensity and pain behavior.

Hong-Gu He M.Sc MD.et.al (2005) Chinese nurses' use of non-pharmacological methods in children's postoperative pain relief. This paper reports a study describing Chinese nurses' use of non-pharmacological methods for relieving 6- to 12-year-old children's postoperative pain and factors related to this. A questionnaire survey was carried out in 2002 with a convenience sample of 187 nurses working at 12 surgical wards in five hospitals of Fujian Province, China. A Likert-type instrument was used, and the average response rate was 98%. Descriptive statistics and content analysis were used to analyze the data. The most commonly used non-pharmacological methods were giving preparatory information, comforting/ reassurance, creating a comfortable environment, distraction, and positioning. Positive reinforcement and helping with daily activities were used less often, and transcutaneous electrical nerve stimulation was not used at all. Many nurse

background factors were statistically significantly related to their use of pain alleviation methods. Furthermore, many factors limited their use of non-pharmacological methods, the most common being that there were too few nurses for the work that had to be done, followed by nurses' lack of knowledge about pain management.

Katri Vehviläinen-Julkunen.et.al, (2002) did a study on Parents' roles in using non-pharmacological methods in their child's postoperative pain alleviation Increasingly nowadays, parents participate more fully in the care of their hospitalized children. The purpose of this study was to describe parents' utilization of selected non-pharmacological methods in relieving their hospitalized child's (aged 8–12 years) postoperative pain, and factors related to this function. •Data were collected by a questionnaire survey completed by parents (•n=192) with a child hospitalized on a pediatric surgical ward in the five university hospitals of Finland. The response rate was 90%.Results indicated that non-pharmacological methods, such as emotional support and helping with daily activities, were well utilized where as cognitive-behavioural and physical methods were less frequently used strategies. Certain background factors specific to the parents and their hospitalized children were significantly related to the non-pharmacological methods used by the parents. The hospitalized child's gender, the time of the surgical procedure, and the parents' assessments of their child's pain intensity, were especially significantly related to many of these strategies. •The findings of this study could be used in clinical practice to improve guidance provided to parents regarding interventions for children's pain relief.

Tarja Pölkki MNSc RN, (2001) conducted a study on Nonpharmacological methods in relieving children's postoperative pain: a survey on hospital nurses in Finland. The aim of this study was to describe nurses' use of selected nonpharmacological methods in relieving 8–12-year-old children's postoperative pain in hospital. The convenience sample consisted of 162 nurses working on the pediatric surgical wards in the five Finnish university hospitals. An extensive questionnaire, including a five-point Likert-scale, on the nurses' use of selected nonpharmacological methods and demographic data was used as a method of data collection. The response rate was 99%. Descriptive statistics as well as nonparametric Kruskall–Wallis anova and the chi-squwered test were used as statistical methods. The study indicates that emotional support, helping with daily activities and creating a comfortable environment were reported to be used routinely, whereas the cognitive-behavioural and physical methods included some less frequently used and less well known strategies. The results also show that attributes, such as the nurses' age, education, and work experience, the number of children the nurses had, the nurses' experiences of hospitalization of their children as well as the hospital and the place of work, were significantly related to the use of some nonpharmacological methods.

2.3.LITERATURE RELATED TO EFFECTS OF MUSIC THERAPY IN CHILDREN

Anurani A. Augustine.et.al.,(2013) did a study on effect of music therapy in reducing invasive procedural pain- a quasi experimental study Illness and hospitalization expose children to unfamiliar and unpleasant feelings. Pain is a physiological and psychological experience that children encounter during hospitalization. Quasi experimental post tests only design was adopted. 80 children

aged 3-7 years who underwent invasive procedures were selected using convenience sampling technique and randomly assigned to experimental (n=40) and control (n=40) groups. Data was collected using FLACC Behavioral pain assessment scale. The mean pain score of children in experimental group (3.88) was lower than control group (8.15). The independent 't' value (t=15.448) computed between experimental and control group was statistically significant at $p<0.05$. Children consider, needle procedure is the most distressing experiences of medical-related care. Music has the potential to decrease the need for pharmacotherapy. Music can distract the child and decrease the pain perception.

Ilan Sanfi (2010) did a study on The Effects of Music Therapy as Procedural Support on Distress, Anxiety, and Pain in Young Children under Peripheral Intravenous Access: Randomized Controlled Trial 41 children (1 to 10 years) were enrolled and underwent a single PIVA procedure. The children were randomly assigned to either an MT or a comparable control group receiving PIVA. In addition, the music therapy (MT) group received individualized MTPS (i.e. music alternate engagement) before, during, and after PIVA. The intervention was performed by a trained music therapist and comprised preferred songs, improvised songs/music, and instrument playing. The study was carried out in accordance with the rules in force regarding research ethics and clinical MT practice. The study examined the effect of MT in relation to 16 outcome measures comprising these outcome domains: Distress, Anxiety, Pain intensity, overall satisfaction with PIVA, Compliance, Number of needle pricks, Duration of the PIVA procedure, and Satisfaction with the applied MTPS intervention. In short, self-report, observational data, and count data were used. From an overall perspective, the results of the study were in favour of the MT group, except for pwerent-rated *Child Pain*, which was slightly higher in the MT

group. In addition, similar mean scores were found in the two groups for Parent Compliance. The results showed that a single MTPS session was highly significantly effective in reducing the *Duration* of the PIVA procedure (33%). The MT intervention was also significantly effective in reducing Child Anxiety. Trends towards significance were also found for child *Anxiety, Pain*, and *Compliance*. Results suggested that MTPS may be effective in reducing the *Number of needle pricks*. No significant result was found for Overall satisfaction *with PIVA*. Furthermore, the majority of the participants found the MT intervention beneficial. Finally, after removal of an outlier, the overall picture became more distinct and two additional significant results were found.

Christian Gold.et.al (2004) did a study on effects of music therapy for children and adolescents with psychopathology: a meta-analysis. The objectives of this review were to examine the overall efficacy of music therapy for children and adolescents with psychopathology, and to examine how the size of the effect of music therapy is influenced by the type of pathology, client's age, music therapy approach, and type of outcome. Eleven studies were included for analysis, which resulted in a total of 188 subjects for the meta-analysis. Effect sizes from these studies were combined, with weighting for sample size, and their distribution was examined. After exclusion of an extreme positive outlying value, the analysis revealed that music therapy has a medium to large positive effect (ES = .61) on clinically relevant outcomes that was statistically highly significant ($p < .001$) and statistically homogeneous. No evidence of a publication bias was identified. Effects tended to be greater for behavioural and developmental disorders than for emotional disorders; greater for eclectic, psychodynamic, and humanistic approaches than for

behavioural models; and greater for behavioural and developmental outcomes than for social skills and self-concept.

Dianna T. Kenny.et.al., (2004) was conducted a study on The Impact of Group Singing on Mood, Coping, and Perceived Pain in Chronic Pain Patients Attending a Multidisciplinary Pain Clinic This study explored the impact of group singing on mood, coping, and perceived pain in chronic pain patients attending a multidisciplinary pain clinic. Singers participated in nine 30-minute sessions of small group singing, while comparisons listened to music while exercising. A short form of The Profile of Mood States (POMS) was administered before and after selected singing sessions to assess whether singing produced short-term elevations in mood. Results indicated that pre to post difference scores were significantly different between singing and control groups for only one of the 15 mood variables (i.e., uneasy). To test the longer term impacts of singing the Profile of Mood States, Zung Depression Inventory, Pain Self-Efficacy Questionnaire, Pain Rating Self-Statement, and Pain Disability Questionnaire were administered immediately before and after the singing sessions. All inventories other than the POMS were re-administered 6 months later. One-way ANCOVAs indicated that participants who attended the singing sessions showed evidence of post intervention improvements in active coping, relative to those who failed to attend, when pre intervention differences in active coping were controlled for. While the singing group showed marked improvements from pre to post intervention on all moods, coping, and perceived pain variables, these improvements were also observed among comparison participants. The results of this study suggest that active singing may have some benefits, in terms of enhancing active coping, though the limitations of the study and small effect sizes observed suggest that further research is required to fully explore such effects.

Caprilli, Simona.et.al., (2007) Interactive Music as a Treatment for Pain and Stress in Children during Venipuncture: A Randomized Prospective Study The sample population was composed of 108 unpremeditated children (4–13 years of age) undergoing blood tests. They were randomly assigned to a music group (n = 54), in which the child underwent the procedure while interacting with the musicians in the presence of a pwerent or to a control group (n = 54), in which only the parent provided support to the child during the procedure. The distress experienced by the child before, during and after the blood test was assessed with the Amended Form of the Observation Scale of Behavioral Distress, and pain experience with FACES scale (Wong Baker Scale) only after the venipuncture. Results show that distress and pain intensity was significantly lower ($p < .001$; $p < .05$) in the music group compared with the control group before, during, and after blood sampling.

Snyder.et.al, (1999) did a study on Nurses have used music as an intervention for many years. A sizeable number of investigations to determine the efficacy of music in managing pain, in decreasing anxiety and aggressive behaviors, and in improving performance and well-being have been conducted by nurses and other health professionals. Nursing and non-nursing research reports published between the years 1980–1997 were reviewed. Great variation existed in the type of musical selection used, the dose of the intervention (number of sessions and length exposure), the populations studied, and the methodologies used. Overall, music was found to be effective in producing positive outcomes.

2.4. LITERATURE RELATED TO EFFECTS OF MUSIC THERAPY ON PAIN AMONG CHILDREN UNDERGONE SURGICAL PROCEDURES.

Stefan Nilsson, (2010) a study was on conducted on procedural and postoperative pain management in children. The overall purpose of this thesis was to investigate procedural and postoperative pain management among children in hospital. The specific aims were to describe a group of children's experiences of pain in conjunction with procedural pain to validate an observational behavioural scale for procedural pain assessment in children aged 5-16 years to study pain intensity and distress among children using serious games and music medicine to describe children's experiences of the use of serious games and music medicine Two hundred and twelve children who underwent a medical or surgical procedure at the Queen Silvia Children's hospital in Gothenburg participated in one or two studies, and data were collected with assessment scales, vital signs and interviews. All the data were analyzed using approved methods of analysis. The results showed that the children emphasized nurses who were clinically competent and that they wanted to participate in decision making concerning distraction techniques as a complement to pharmacological treatment. An observational assessment scale, the Face, Legs, Activity, Cry and Consolability (FLACC) scale, was a valuable tool for assessing procedural pain and complementing retrospective self-reported pain and distress. Distraction techniques were helpful coping strategies for the children, who also needed to feel secure in the pain management. In children undergoing needle related procedures, serious games reduced pain intensity, but only for those who liked the game, and the interviews showed increased wellbeing. Music medicine reduced morphine consumption and decreased the children's distress when they underwent day surgery.

Sigma Theta Tau , (2009) conducted a study to assess and compare the effect of music therapy on postoperative pain of patient undergone elective abdominal surgery. A quasi-experimental design was used and convenient samples of 30 (15 in each exp & control group). Pain was measured by Verbal Rating Scale. Music therapy was given as per patient's wish to experimental group and intensity of pain was monitored before and immediately after recovery from anesthesia, during the 1st and 2nd postoperative day for both the groups. Results revealed that those patients who listened to self selected music tapes had significant differences ($p<0.001$) in pain scores when compared to the control group. The conclusion of study shows that the music is an effective anxiolitic (relaxing agent) which can be beneficial for the early recovery of surgical patients.

Sendelbach, Sue.E.et.al., (2006) did a study on effects of Music Therapy on Physiological and Psychological Outcomes for Patients Undergoing Cardiac Surgery An experimental design was used. A total sample of 86 patients (69.8% males) were randomized to 1 of 2 groups; 50 patients received 20 minutes of music (intervention), whereas 36 patients had 20 minutes of rest in bed (control). Anxiety, pain, physiologic parameters, and opioid consumption were measured before and after the 20-minute period. A significant reduction in anxiety ($P \leq .001$) and pain ($P = .009$) was demonstrated in the group that received music compared with the control group, but no difference was observed in systolic blood pressure ($P = .17$), diastolic blood pressure ($P = .11$), or heart rate ($P = .76$). There was no reduction in opioid usage in the 2 groups.

Thamine P.Hatem.et.al., (2006) The therapeutic effects of music in children following cardiac surgery Randomized clinical trial with placebo, assessing 84

children, aged 1 day to 16 years, during the first 24 hours of the postoperative period, given a 30 minute music therapy session with classical music and observed at the start and end of the session, recording heart rate, blood pressure, mean blood pressure, respiratory rate, temperature and oxygen saturation, plus a facial pain score. Statistical significance was set at 5%. Five of the initial 84 patients (5.9%) refused to participate. The most common type of heart disease was acyanotic congenital with left-right shunt (41% of cases: 44.4% of controls). Statistically significant differences were observed between the two groups after the intervention in the subjective facial pain scale and the objective parameters heart rate and respiratory rate ($p < 0.001$, $p = 0.04$ and $p = 0.02$, respectively).

Tse MM.Chan Me. Benzie, (2005) conducted a study to find the effectiveness of music therapy on postoperative pain and analgesic use following nasal surgery. Sample size was 57 patients (24females&33 males) who were matched for age and sex and then non-selectively assigned to either an experimental or a control group. Music was played intermittently to members of the experimental group during the first 24hrs postoperative period and pain intensity was measured by Verbal Rating Scales. It shows the significant decrease in pain intensity over time were found in the experimental group compared to the control group ($p<0.0001$). In addition, the experimental group had a lower systolic BP and HR and took fewer oral analgesics for pain. These finding concluded that music therapy is an effective non-pharmacological approach for postoperative pain.

Nilsson, Unosson and Rawal, (2005) conducted a study on Stress reduction and analgesia in patients exposed to calming music postoperatively. The randomized controlled trial was designed to evaluate the effectiveness of music therapy. Seventy-

five patients undergoing hernia repair in day care surgery were allocated to three groups: intraoperative music, postoperative music and silence (control group). Patient's postoperative pain, anxiety, blood pressure (BP), heart rate (HR) and oxygen saturation were studied. The postoperative music group had less anxiety and pain and required less morphine after 1hr compared with the control group. The result concluded that intraoperative music may decrease postoperative pain, and that postoperative music therapy may reduce anxiety, pain and morphine consumption.

Joke Bradt (2001) was conducted a study on the effects of music entrainment on postoperative pain perception in pediatric patients. The purpose of this study was to examine the effects of music entrainment, an improvisational music therapy intervention, on postoperative pain perception in pediatric patients. Since pain perception is influenced by emotional state and perceived level of control, the effects of music entrainment on these variables were also evaluated. Thirty-two recovering orthopedic patients, ages 8 to 19, participated in two music entrainment conditions and one control condition over two consecutive days. These three conditions were sequenced according to a Latin Squwere design to control for order and time as confounding variables. During the music entrainment condition, live music was created by the music therapist to match the child's pain. Once resonance was achieved between the pain and the music, the music slowly progressed into music predetermined iv by the child as healing. During the control condition, daily routine activities continued as usual. However, the subject was asked not to listen to any music during this time. Measurements of the dependent variables were taken just prior to and immediately following each condition by means of a pain questionnaire. The results of the present study overwhelmingly support the effectiveness of music entrainment as a postoperative pain management technique for children. Large

decreases in pain intensity (p = .000) were found for both music entrainment sessions. In contrast, a small increase in pain, although insignificant (p = .144), was identified for the control condition. The pain-reducing effects of the music entrainment session were the largest as long as the music was present, and decreased after the music had stopped. Furthermore, data indicated that music entrainment was effective in enhancing the patients' mood (p =.000): the children showed significantly higher levels of happiness, peacefulness, relaxation, comfort and calmness during both sessions. Finally, results suggested that music entrainment moderately increased patients' perceived level of control during the first session (p = .014) as well as the second session (p = .005), but not during the control condition (p = .573).

SECTION - B

CONCEPTUAL FRAMEWORK

The investigator adopted Modified Imogene King's Goal Attainment Theory (1981) based on the personal & interpersonal systems including interaction, perception, judgement, Communication and transaction. The investigator adopted goal attainment as a basic theory for conceptual framework, which is aimed at effectiveness of music therapy on level of post operative pain. This involves interaction between the researcher and the children.

Six major concepts describe these phenomena:

Perception

It refers to people's representation of reality. Here the elderly perceived the need of music therapy on level of post operative pain..

Judgment

Judgment is decision which is made. Here the researcher decides to provide music therapy to reduce the level of postoperative pain and children siding decided to participate in the research study.

Action

This refers to the changes that have to be achieved. The researcher action is to provide music therapy to reduce the level of pain and then children decided to receive the music therapy.

Reaction

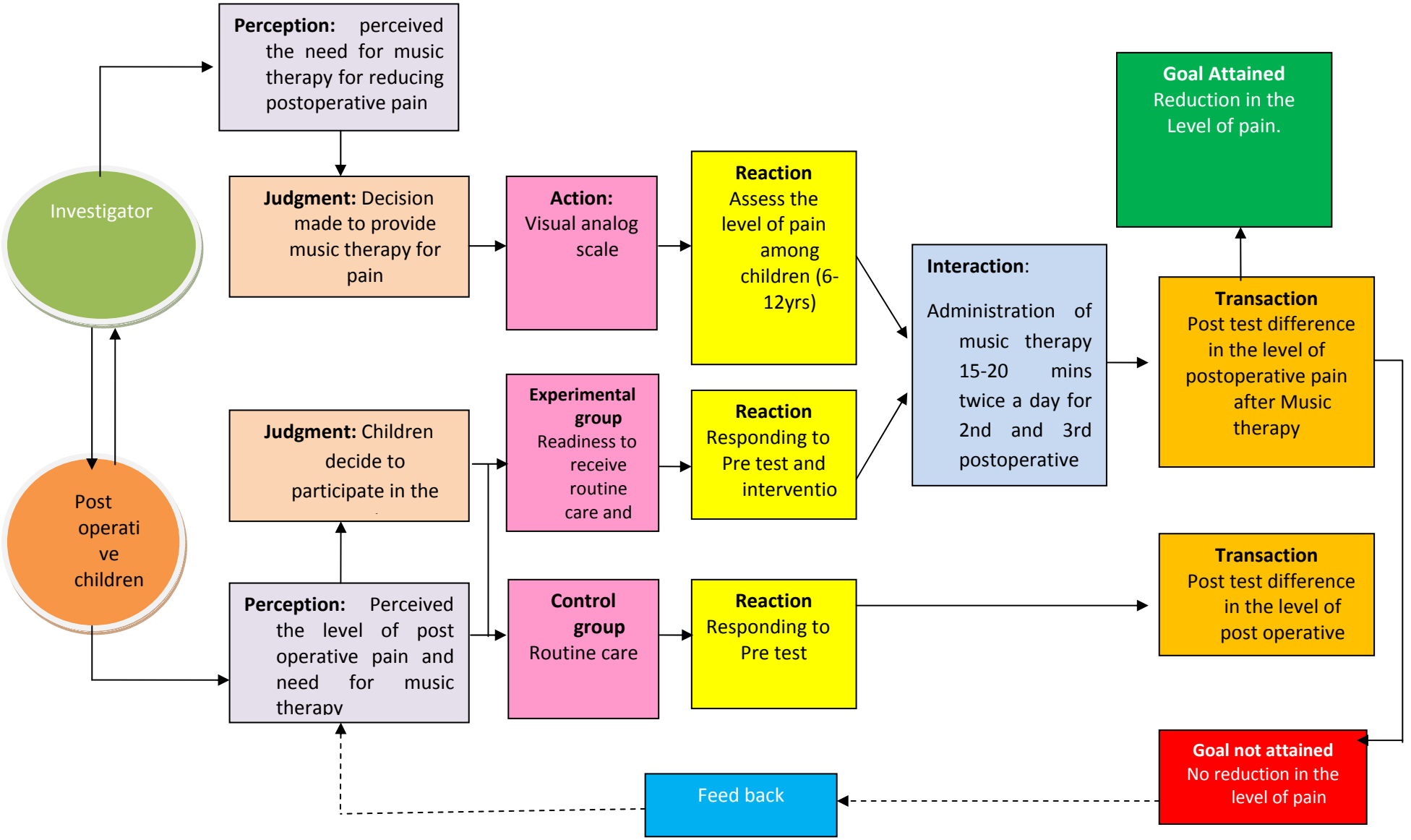
Reaction helps in setting a mutual goal. In this study the researcher and children set a mutual goal. Here the mutual goal is reduction in level of pain.

Interaction

If refers to the verbal and non verbal communication between one individual or between two or more individual who involve goal directed perception. Here the researcher encourages the postoperative children to receive the music therapy to reduce the level of pain.

Transaction

This is the achievement of a goal. Here the researchers goal is achievement of the reduction in level of pain and evaluate the effectiveness of music therapy by using visual analog scale.


Investigator
Post operati ve children
Perception: perceived the need for music therapy for reducing postoperative pain
Judgment: Decision made to provide music therapy for pain
Action: Visual analog scale
Reaction Assess the level of pain among children (6-12yrs)
Goal Attained Reduction in the Level of pain.
Interaction: Administration of music therapy 15-20 mins twice a day for 2nd and 3rd postoperative
Transaction Post test difference in the level of postoperative pain after Music therapy
Judgment: Children decide to participate in the
Experimental group Readiness to receive routine care and
Reaction Responding to Pre test and interventio
Perception: Perceived the level of post operative pain and need for music therapy
Control group Routine care
Reaction Responding to Pre test
Transaction Post test difference in the level of post operative
Goal not attained No reduction in the level of pain
Feed back

Methodology

CHAPTER-III

METHODOLOGY

The methodology of research indicates the general pattern of organizing the procedure of gathering valid and reliable data for an investigation (Kothari C.R.., 2004). This chapter provides a brief description of the methods adopted by the investigator in the study. It includes the research approach, research design, the setting, sample and sampling technique .It further deals with the development of the tool and procedure for data collection and plan for data analysis

This chapter deals with the description of methodology and different steps that are taken for gathering and organizing data for the investigator to assess the effectiveness of music therapy on pain among children undergone surgical procedures.

3.1. RESEARCH APPROACH

The research approach tells the researcher from where the data is to be collected, what to collect, how to collect and how to analyze them. It also suggests a possible conclusion and helps the researchers in answering specific research questions in an accurate and efficient way.

According to Polit and Hungler (1999) evaluative research is an applied format research that involves finding out how well a program, practice, procedure or policy is working. It involves the collection and analysis of information relating to the functioning of a program or procedure. With the aim of assessing its effectiveness.

The research approach adopted for this study is an quantitative (evaluative) approach. This study aims at assessing the effectiveness of music therapy on pain among children undergone surgical procedures

3.2. RESEARCH DESIGN

According to Kothari .C.R. (2003) "A research design is defined as the overall plan for collecting and analyzing data, including a specification for enhancing the internal and external validity of the study"

A research design incorporates the most important methodological decisions that an investigator makes in conducting the research study. It depicts the overall plan for the organization of scientific investigations. It helps the researcher in the selection of samples, manipulation of independent variable and observation of a type of statistical method to be used to interpret the data. The selection of design depends upon the purpose of the study, research approach and variables to be studied.

The research design used for this study is True Expremental Design -Pretest Post test control group design was selected to assess the level pain among children.

GROUP		Pre Test	Intervention	Post Test
Randomization (R)	Experimental Group	0_1	X	0_2
	Control group	0_1	____	0_2

Schematic representation of research design

01 – Pretest assessment of expremental group and control group.

X- Music Therapy.

02- Post Test assessment of expremental group and control group.

R- Randomization

3.3. VARIABLES

The variable is “an attribute of a person or object that varies, that is taken a different values”

- Polite and hunger

Independent variable

The independent variable is the variable that stands alive and is not dependant on another. It is the cause for an action.

In the present study, the independent variable is the Music therapy.

Dependent variables

Dependent variable is the effect of the action of the independent variable and cannot exist by itself.

In the present study, the dependant variable is pain.

3.4. SETTING OF THE STUDY

The setting is the physical location and condition in which data collection takes place in the study. (Polit and Hungler, 1995).

The study was conducted in the post operative Ward in Institute of Child Health and Research Centre, at GRH, Madurai.

3.5. STUDY POPULATION

The population is defined as the entire aggregation of cases that meet a designed criterion.

The target population of the present study comprises of children undergone surgical procedures.

The Accessible population of the present study comprises of children undergone surgical procedures in post operative ward, in Institute of Child Health and Research Centre, at GRH, Madurai .

3.6. SAMPLE

The sample is a subset of the population selected to participate in a research study.

Polit and Hungler (1995)

The sample of the present study comprises of children those who are under gone surgical procedures in post operative ward, in Institute of Child health and research centre, Madurai, and who fulfilled the inclusion criteria.

3.7 SAMPLE SIZE

The sample size for the present study is composed of 60 post operative children (30 Experimental group and 30 Control Group) who is admitted in Institute of Child Health and Research Centre, at GRH, Madurai.

3.8. SAMPLING TECHNIQUE

Sampling is the process of selecting a portion of the population to represent the entire population. who met the inclusion criteria.

The sample were selected those who met the inclusion criteria, and Probability- simple random sampling technique (lottery method).

3.9. CRITERIA FOR SELECTION OF SAMPLES

The study include that

Inclusion criteria

- Children in the age group of 6 to 12 years
- Children who are undergone surgical procedures in major abdominal surgery
- Children who were on second post operative day.
- Children who can understand and able to speak Tamil

Exclusion Criteia

- Children who were mentally challenged
- Children those who were not able to hear.
- Children who were not willing to participate.

3.10. DESCRIPTION OF THE TOOL

- Data collection tools are the procedures or instruments used by the researcher to observe or measure key variables in the research problem. Visual Analogue scale was selected to assess the level of post operative pain among children. It was considered to be the most appropriate instrument to elicit the response from subjects who are able to understand Tamil.
- The following steps were carried out in the preparation of the tool.
    1) Literature review
    2) Conceptual framework
    3) Discussion with experts
    4) Preparation of blue print

The tool was organized into two sections. They were

Section –A: Deals with demographic variables.

Section A consist of demographic variables of age, sex, religion, place of birth, education of the child, monthly income of the family, previous hospitalization, education of the pwerent, food habits, music hearing habits.

Section B: Visual Analog Scale.

Visual analog scale is a patient report scale which consists of 10 items to rate pain responses of post operative children 6-12 year. Each item is rated on a four point scale, scoring from 0 to 10.

3.11.SCORING PROCEDURE

The scoring system is divided into following categories

0 – Normal

01 to 03 – Mild

04 to 06 – Moderate

07 to 10 – Severe

The scoring of each item of Visual analog Scale as follows

ITEMS	SCORE
Normal	0
Mild pain	1-3
Moderate pain	4-6
Severe pain	7-10

This instrument consist of 10 items. Decrease of score denotes no pain of children towards surgical procedures.

3.12. TESTING OF THE TOOLS

Validity of the Tool

"Validity is the degree to which an instrument measures what is intended to measure" (Polit and Hungler. 1995).

The content of the tool was validated by the experts in the field of medicine and Nursing. The suggestions of the experts were incorporated in the study. Minimal modification was made in the section A & Section B of the tool. After the change the tool was finalized. The refined modified tool was used for data collection and content validity was obtained.

Reliability of the Tool

The accuracy and consistency of the research tool are called reliability .Reliability of the tool was assessed by using Inter rater method. Pain score reliability correlation coefficient value is 0.83. This correlation coefficient is very high and it is a good tool for assessing effectiveness music therapy among children undergone surgical procedures regarding pain management.

3.13. PILOT STUDY

A pilot study is a small scale version or a trial run for the major study. The function of this pilot study was to obtain information for improving the project or for assessing its feasibility.

The pilot study was conducted after getting formal administrative permission and ethical clearance. The pilot study was conducted in the ward at Institute of Child Health and research, Madurai. for the period of one week. Formal permission was obtained from the Director of Institute of Child Health and research, and from the

Head of the Department of surgery.The pilot study was contected on 01-08-2014 to 07-08-2014. Ten samples those who fulfilled the inclusion criteria were chosen by using Probality simple random sampling technique. Informed consent was obtained from the mothers of the sample and data was collected. The instrument was found reliable for proceeding with the main study. The other opinion and suggestion were incorporated in the main study to accomplish the objectives of the study.

3.14. MUSIC THERAPY AS AN INTERVENTION TOOL

"Music therapy is the use of music by health care professionals to promote healing and enhance quality of life for their patients. Music therapy may be used to encourage emotional expression, promote social interaction, relieve symptoms, and for other purposes. Music therapists may use active or passive methods with patients, depending on the individual patient's needs and abilities."

- American Music therapy association

Intervention : music therapy.

Frequency : two session morning and evening.

Duration of section : 15-20 min.

Duration of therapy : second and third post operative day

3.15. ETHICAL CONSIDERATION

This study was conducted after the approval from the ethics committee Madurai medical college, Madurai-3. All respondents were carefully informed about the purpose of the study and their part during the study and how the privacy was guarded. Ensured confidentiality of the study result. Thus the investigator followed the ethical guidelines which were issued by the research committee. Written permission was obtained from all participants.

3.16. DATA COLLECTION PROCEDURE

After obtaining written permission from the Principal, College of Nursing, Director, Institute of Child Health and Research Centre, Ethical committee. On the first day of data collection, the investigator introduced herself and explained the nature and purpose of the study to the mothers of post operative children. Consent was obtained to participate in the study and confidentiality of their responses was assured. Pretest were conducted in post operative ward children in 6-12 years and 60 no (30 experimental group, 30 Control group) of samples selected by a Probability-simple random sampling method. The investigator started the study in the post operative ward (from12.08.2014 to 15.09. 2014).

The data were collected in three phases.

- Phase 1 : Pre test: The level of post operative pain were assessed with the help of visual analogue scale before intervention in both experimental and control group.
- Phase II :Intervention: In experimental group, Music therapy were administered through head phone for 15-20 minutes for two sessions, morning and evening. The music used will be Indian classical instrumental music like Neelambari raga..
- Phase III: Post test: The level of post operative pain were reassessed with the help of visual analogue scale for both group.

3.17. PLAN FOR DATA ANALYSIS

The data were planned to be analyzed in terms of the objectives of the study using descriptive and inferential statistics.

Descriptive statistics include

1) Frequency and percentage distribution of demographic variables.
2) Mean and standard deviations of pre assessment and post assesssment of pain level and physiological parameters.

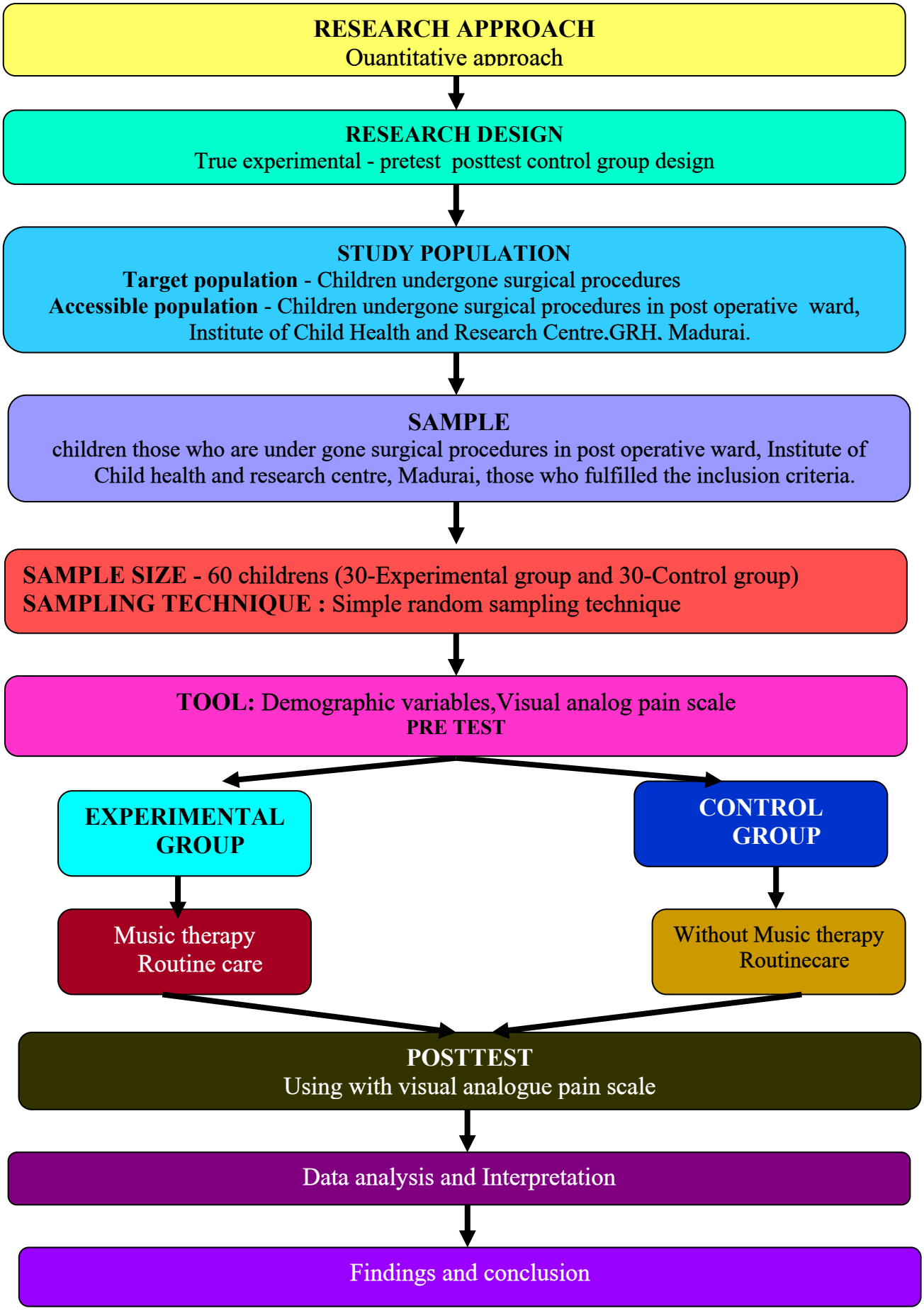
Inferential statistics include

1) Student paired 't' test for comparison of pre assessment and post assessment experimental group to assess the effectiveness of music therapy
2) Unpaired 't' test for comparison of post test between control and experimental group to assess the effectiveness of music therapy.
3) Chi square test is used to associate the demographic variables with the post test of both group.

3.18 PRODUCTION OF HUMAN RIGHTS:

Research proposal was approved by the dissertation committee, prior to the pilot study and the main study permission was obtained from the Head of the Department of Paediatrics, in Institute of Child Health and Research Centre, at Government Rajaji Hospital, Madurai. An oral and written consent of each study samples was obtained before starting the data collection for pilot study. Positive benefits were explained to all the study subjects. They were also be explained that they may withdraw from the study at any time without any penalty. Assurance was given to the subjects that confidentiality could be maintained throughout the study. Debriefing of the study results is done after the approval of dissertations.

FIG: 2 SCHEMATIC REPRESENTATION OF THE RESEARCH



Data Analysis And Interpretation

CHAPTER – IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with the analysis of data collected from 60 children in the age group of 6 to 12 years admitted in the post operative ward in Institute of Child Health and Research Centre , at GRH Madurai. The data findings have been tabulated and interpreted according to the plan for data analysis.

ORGANIZATION OF THE DATA

Section – I : Distribution of children undergone surgical procedures, with their related demographic variables in both groups.

Section–II: Description of level of pain among children undergone surgical procedures, in experimental group and control group.

Section-III: Description of the effectiveness of music therapy among children undergone surgical procedures, in experimental group.

Section – IV: Comparition of the post test level of pain among children undergone surgical procedures, in experimental group and control group.

Section-V : Association of the level of pain amongchildren undergone surgical procedures, with their selected demographic variables in both groups.

SECTION – I

Distribution of children undergone surgical procedures, with their related demographic variables in both groups.

TABLE - 1

Frequency and percentage distribution of samples according to demographic variables

n = 60

Demographic variables	Control group		Experimental group	
	f	%	f	%
1.Age of the child				
6-8years	14	46.7	11	36.7
8-10years	11	36.7	14	46.7
10 -12years	5	16.7	5	16.7
2.Gender				
Male	20	66.7	16	53.3
Female	10	33.3	14	46.7
3.Religion				
Hindu	19	63.3	13	43.3
Muslim	7	23.3	11	36.7
Christian	4	13.3	6	20
Others	0	0	0	0
4.Place of birth				
Urban	12	40	9	30
Rural	12	40	14	46.7
Semi urban	6	20	7	23.3
5.Education of the child				
Istd - IIstd	11	36.7	9	30
III-std - IV std	13	43.3	14	46.7
IV-std - V std	6	20	7	23.3
VI and above	0	0	0	0

Demographic variables	Control group		Experimental group	
	f	%	f	%
6.Monthly income of the family				
Rs.1000 - 2500	5	16.7	3	10
Rs.2500-3500	17	56.6	18	60
Rs.3500 - 4500	8	26.7	9	30
Rs.4500 & above	0	0	0	0
7.Previous hospitalization				
IPD	4	13.3	5	16.7
OPD	6	20	7	23.3
Not hospitalization	20	66.7	18	60
8.Education of pwerents				
Non formal education	22	73.3	18	60
9.Food habits				
Vegetarian	8	26.7	12	40
Non-vegetarian	22	73.3	18	60
Natural food	0	0	0	0
Others	0	0	0	0
10.Music hearing habits				
Through TV	10	33.3	7	23.3
Through radio	0	0	-	0
Cell phone	5	16.7	5	16.7
All the above	15	50	18	60

Above table reveals the demographic information of children those who participated for the following study on A study to assess the effectiveness of Music therapy on pain among children undergone surgical procedures, in Institute of Child Health and Research Centre at GRH Madurai .

In considering the age wise distribution of children in the experimental group (36.7%) 11 children were in 6 to 8 years of age, (46.7%) 14 children were 8 to 10 years of age and(16.7%)5 children were in 10 to 12years of age. In the control group (46.7 %)14of children were between 6 to 8 years of age, (36.7%)11 children were in 8 to 10 years of age, (16.7%) 5 children were in 10 to 12 years of age

Regarding gender wise distribution in experimental group (66.7%) 20 children were male children and (33.3%) 10 children were female. In the control group (53.3%) 16 were male children and (46.7%) 14 were female children participated in the study.

Based on the religion wise distribution in experimental group (43.3%) 13 children were Hindus, (36.7%) 11 children were Christians, and (20%) 6 children were Muslims. In the control group around (63.3%) 19 children were Hindus, (23.3%) 7 children were Christians, and (13.3%) 4 children were Muslims.

Considering the place of residence of the study participants in the experimental group (30%) 9 children were lives in urban area, (46.7%) 14 children were lives in rural area, and (23.3%) 7 children were lives in semi urban areas. In the control group (40%) 12 children were lives in rural area (40%) 12 children were from urban wereas ,and (20%) 6 children were live in semi urban.

On basis of child education in experimental group (30%) 9 were studying in 1 to 2 Std, (46.7%) 14 were studying in 3 - 4 Std, and (23.3%) 7 were studying in 4 – 6 Std. In the control group the (36.7%) 11 were studying in 1 to 2 Std, (43.3%) 13 were studying in 3 - 4 Std, and (20%) 6 were studying in 4 – 6 Std.

With view of the monthly income of the family, In the experimental group (10%) 3 of them have 1000-2500 Rs per month, (60%) 18 of them have 2500-3500 Rs per month, and (30%) 9 of them have 3500-4500 Rs per month. In the control

group (16.7%) 5 of them have 1000-2500 Rs per month, (56.6%) 17 of them have 2500-3500 Rs per month, and (26.7%) 8 of them have 3500-4500 Rs per month.

In considering the previous exposure of hospitalization, In experimental group (16.7%) 5 children having experience in Inpatient department, (23.3%)7 children were having experience of Outpatient department, and (60%) 18 of children has not hospitalized. In control group (13.3%) 4 children having experience in Inpatient department, (20%) 6 children having experience of Outpatient department, and (66.7%) 20 of children has not hospitalized.

When considering the education of the parents, In experimental group (60%)18 parents having non formal education, (20%) 24 parents having primary education, and (20%) 6 parents having high school education. In the control group (73.3%) 22 parents having non formal education, (13.3%) 4 parents having primary education, and (13.3%) 4 parents having high school education.

Regarding the food habits of the children, In experimental group (40%)12 of them taking vegetarian foods, and (60)%18 of them taking non –vegetarian foods. In control group (26.7%) 8 of them taking vegetarian foods, and (73.3%)22 of them taking non –vegetarian foods.

When considering a Music hearing habits of the children, In experimental group (23.3%) 7 of them hearing music through the television, (16.7%) 5 of them hearing music through the cell phone, and (60%) 18 of them hearing music through the television, radio, and cellphone. In control group (33.3%)10 of them hearing music through the television, (16.7%)5of them hearing music through the cell phone, and (50%)15 of them hearing music through the television, radio, and cellphone.

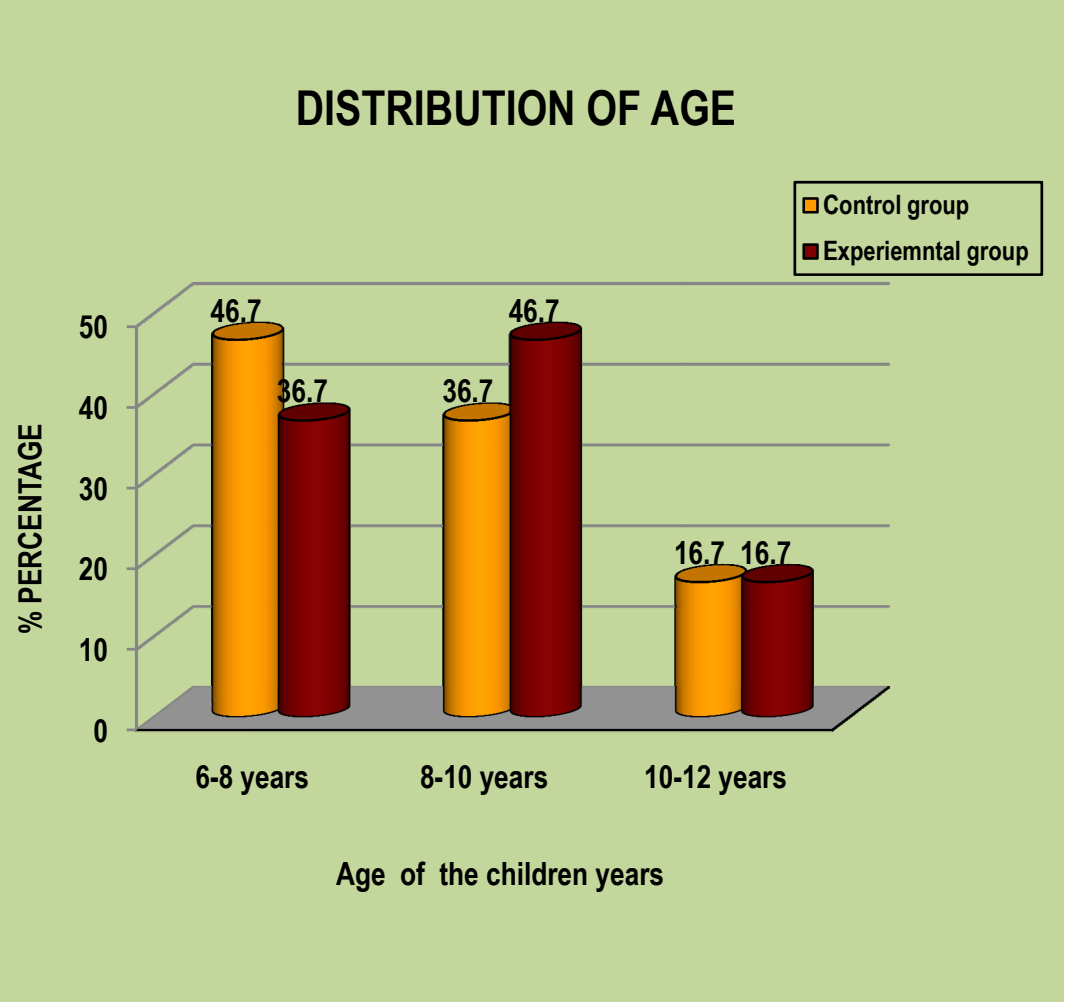


Fig. 3. Percentage distribution of subjects in Experimental group and control group according to their age.

The above cylindrical bar diagram shows that majority of subjects were (46.7%) 14 of them 6-8yrs age group in control group and (46.7%) 14 of them 8-10 yrs age group in experimental group.

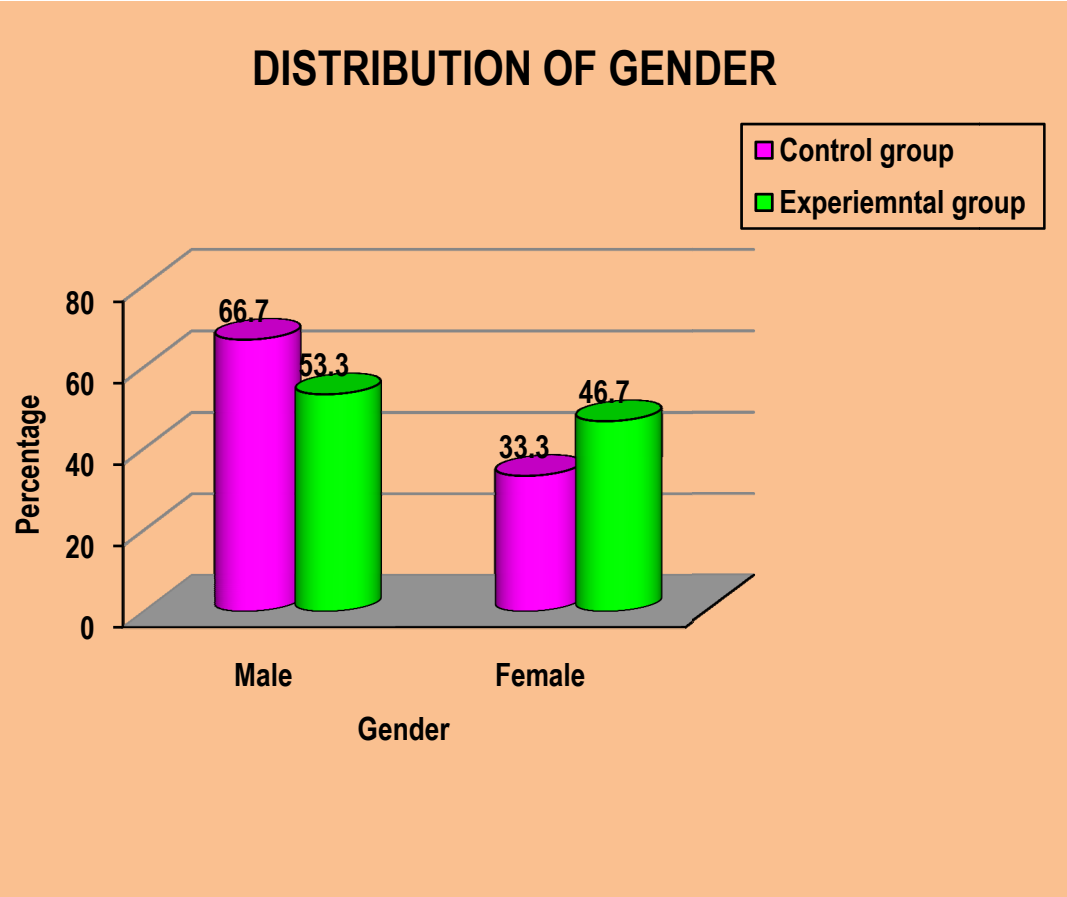


Fig. 4. Percentage distribution of subjects in Experimental group and control group according to their gender

The above cylindrical bar diagram shows that majority of subjects were (66.7%) 20 of them male in control group and (46.7%) 14 of them female in experimental group.

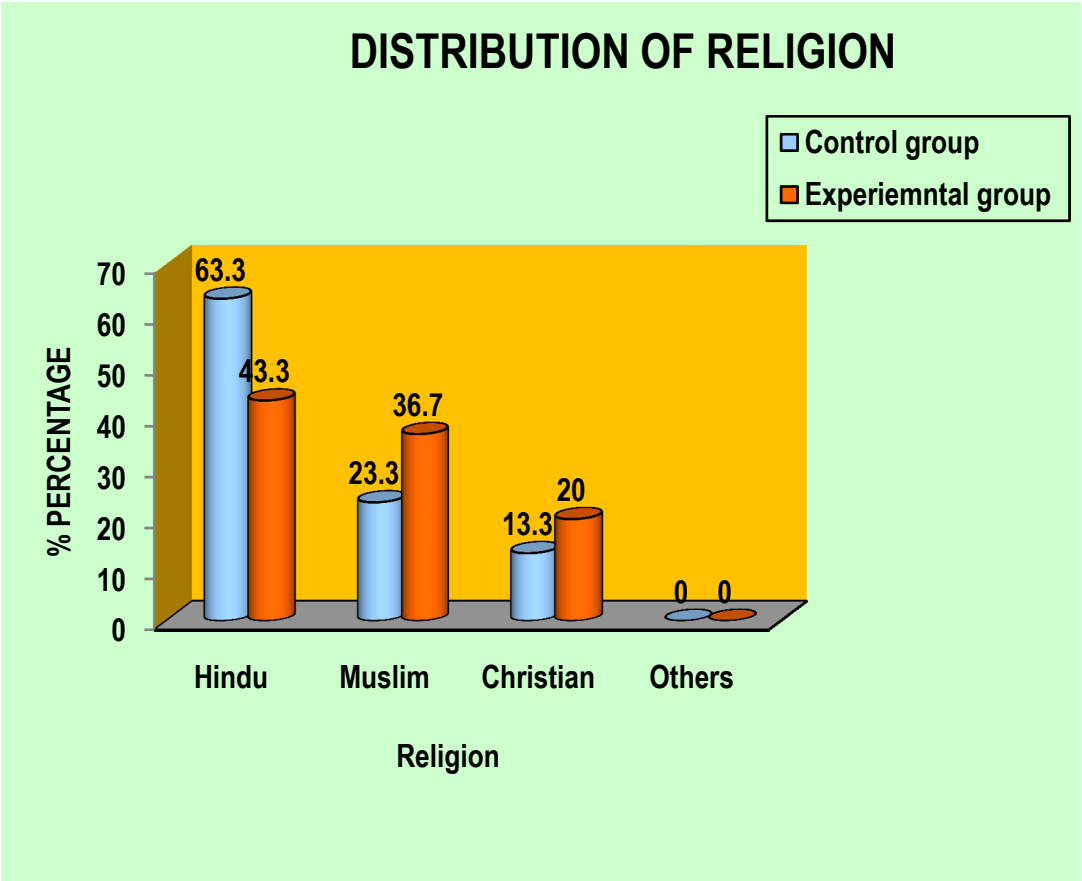


Fig. 5. Percentage distribution of subjects in Experimental group and control group according to their religion

The above cylindrical bar diagram shows that majority of subjects were (63.3%) 19 of them Hindu in control group and (43.3%) 13 of them Hindu in experimental group.

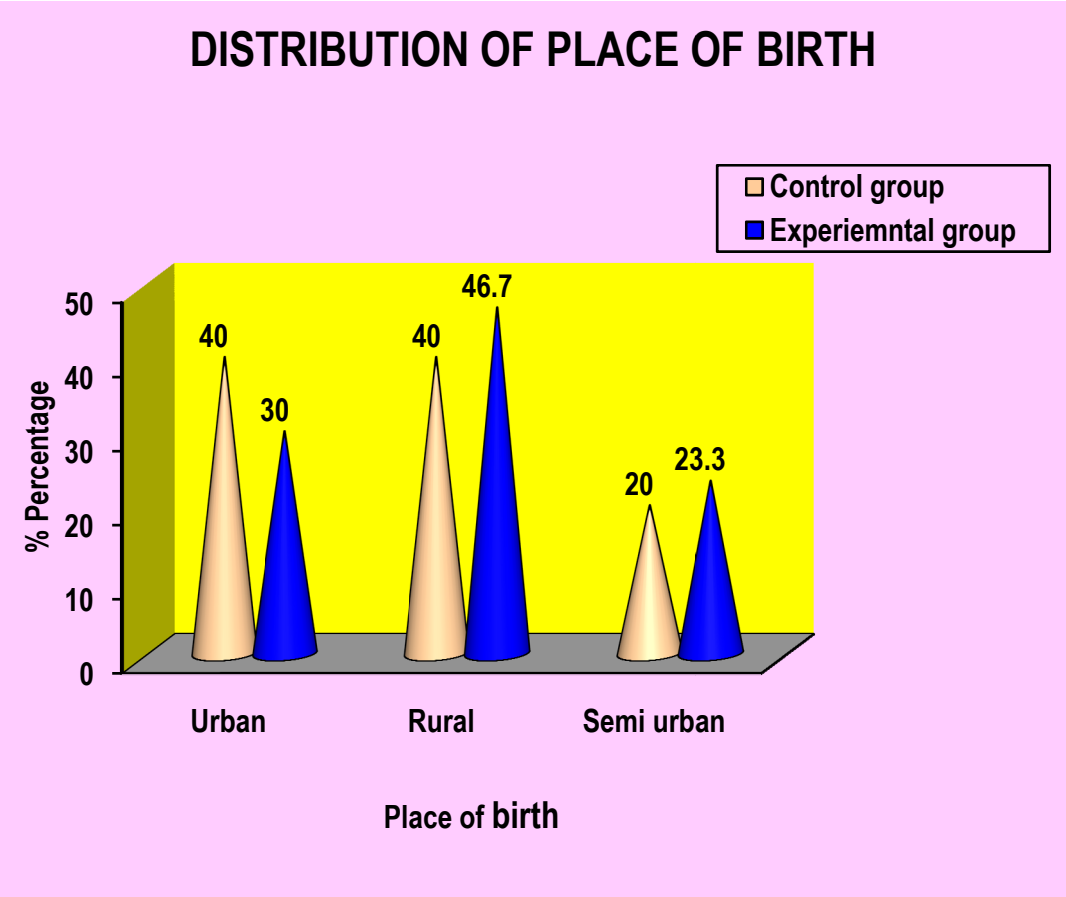


Fig. 6. Percentage distribution of subjects in Experimental group and control group according to their place of birth

The above cone diagram shows that majority of subjects were(40%) 12 of them Urban werea in control group and (46.7%) 14 of them Rural werea in experimental group.

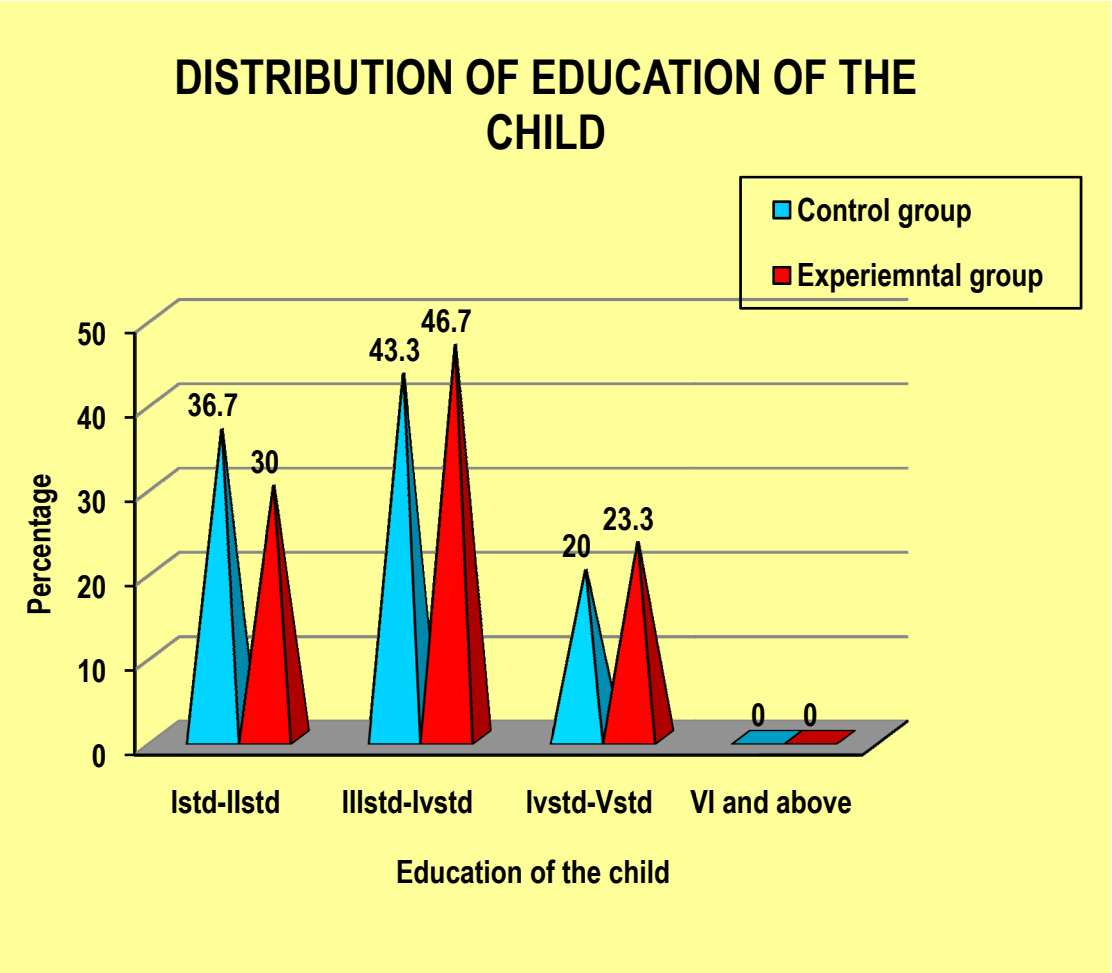


Fig. 7. Percentage distribution of subjects in Experimental group and control group according to the education of their child

The above cone diagram shows that majority of subjects were (43.3%) 13 of them III - IVstd in control group and (46.7%) 14 of them III - IVstd in experimental group.

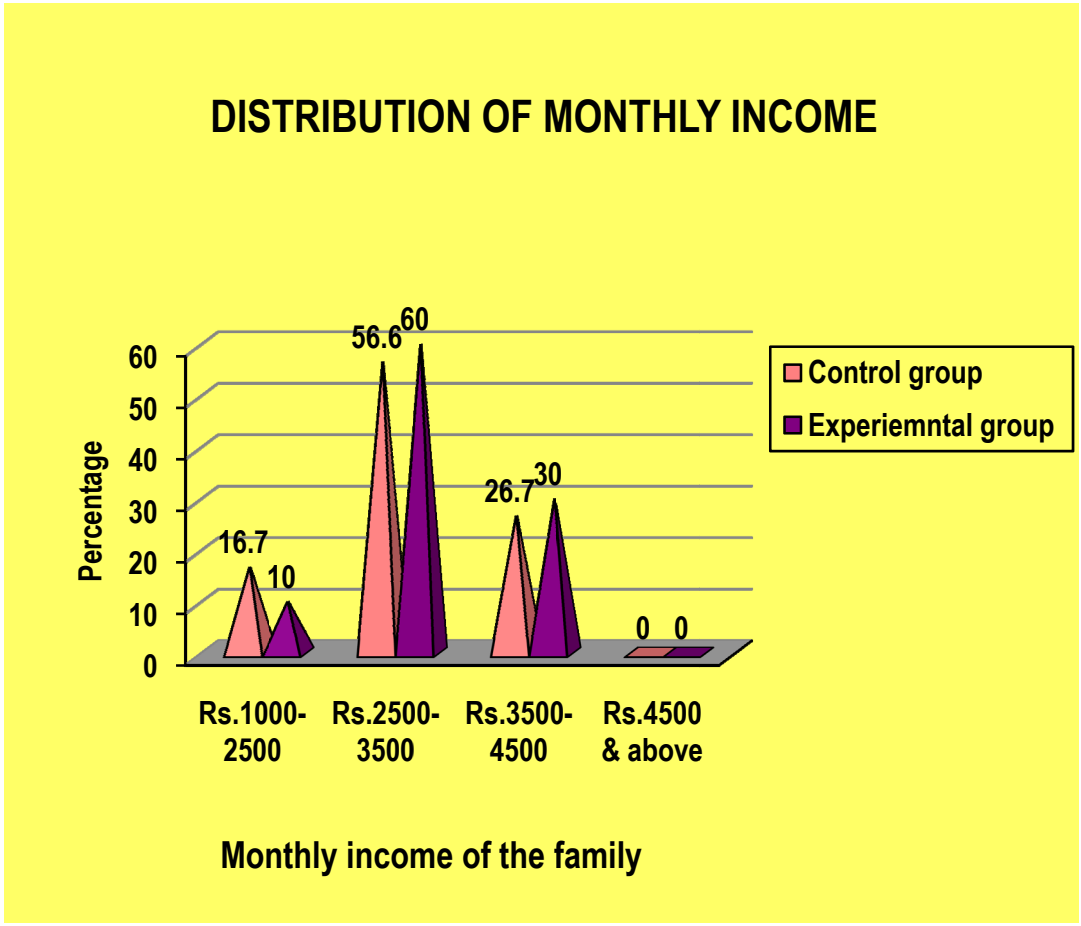


Fig. 8. Percentage distribution of subjects in Experimental group and control group according to their monthly income

The above cone diagram shows that majority of subjects monthly income of the family were (56.6%) 17 of them Rs.2500-3500 in control group and (60%) 18 of them Rs.2500-3500 in experimental group.

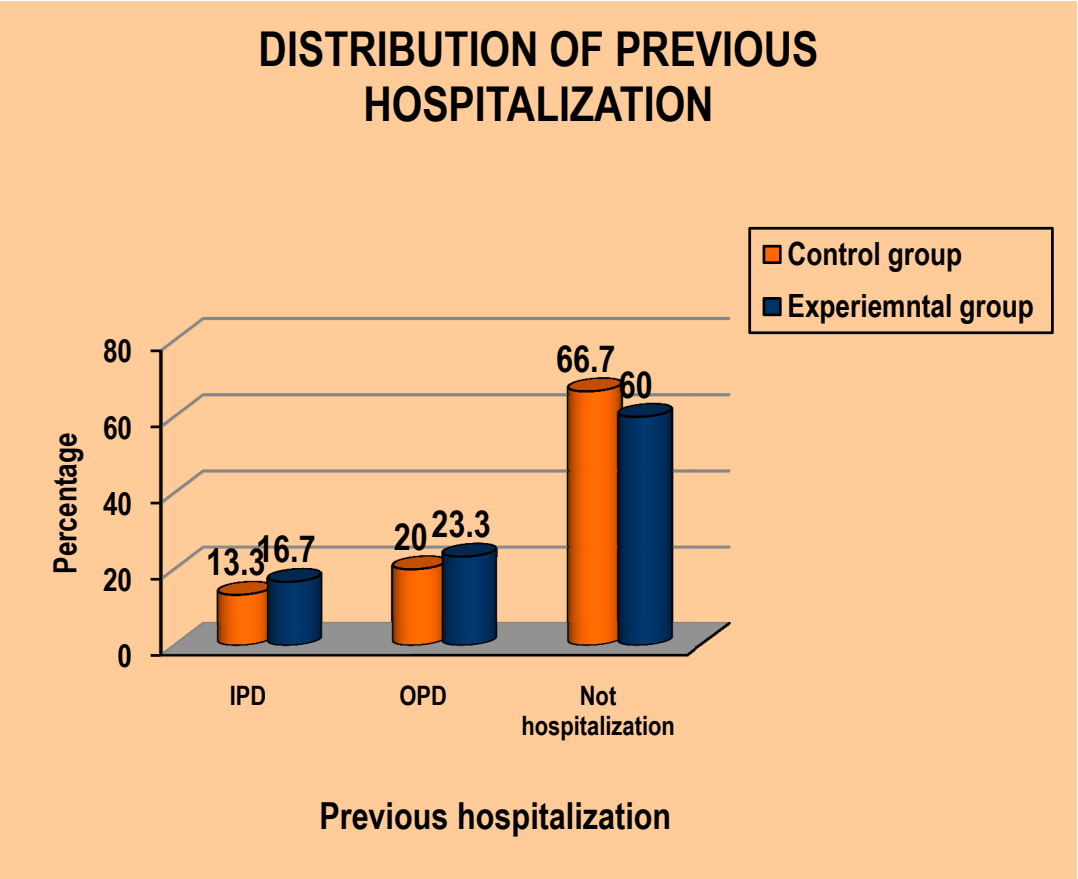


Fig. 9. Percentage distribution of subjects in Experimental group and control group according to their previous hospitalization

The above cylindarical bar diagram shows that majority of subjects were (66.7%) 20 of them Not hospitalization in control group and (60%) 18 of them Not hospitalized previously in experimental group.

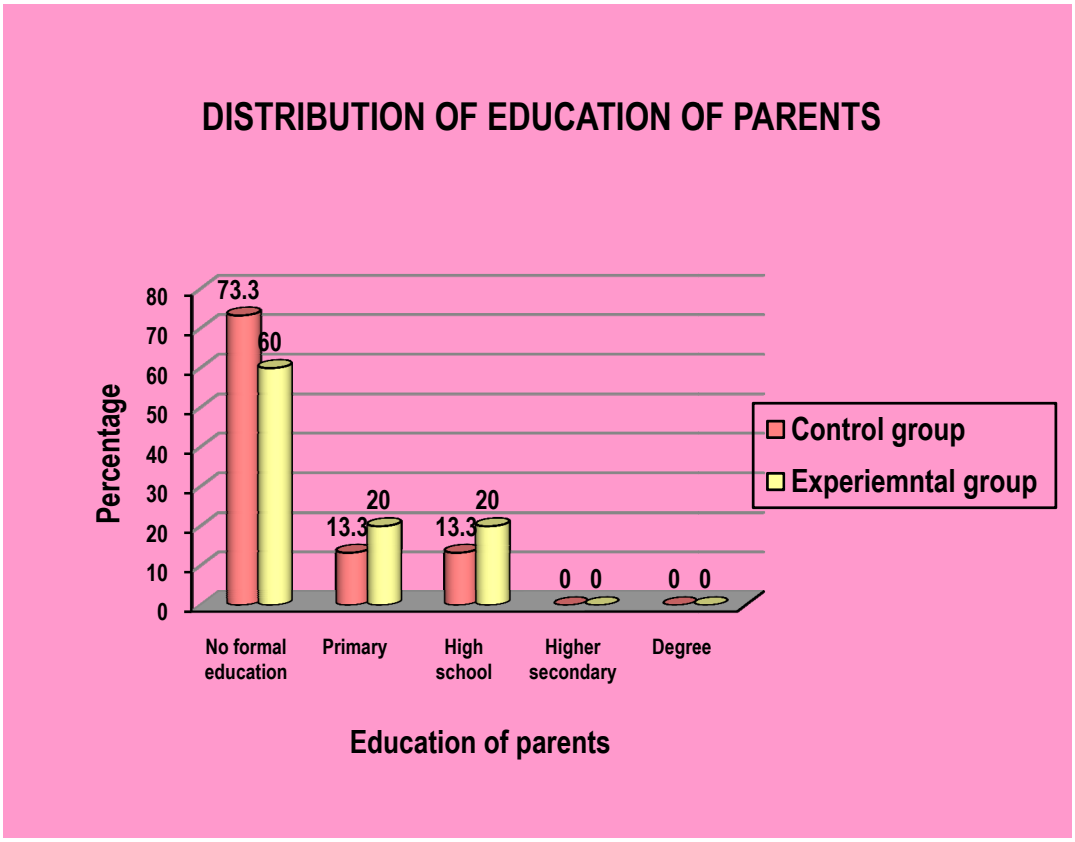


Fig. 10. Percentage distribution of subjects in Experimental group and control group according to their education of pwerents.

The above cylindrical bar diagram shows that majority of subjects were (73.3%) 22 of them have No formal education in control group and (60%) 18 of them have No formal education in experimental group.

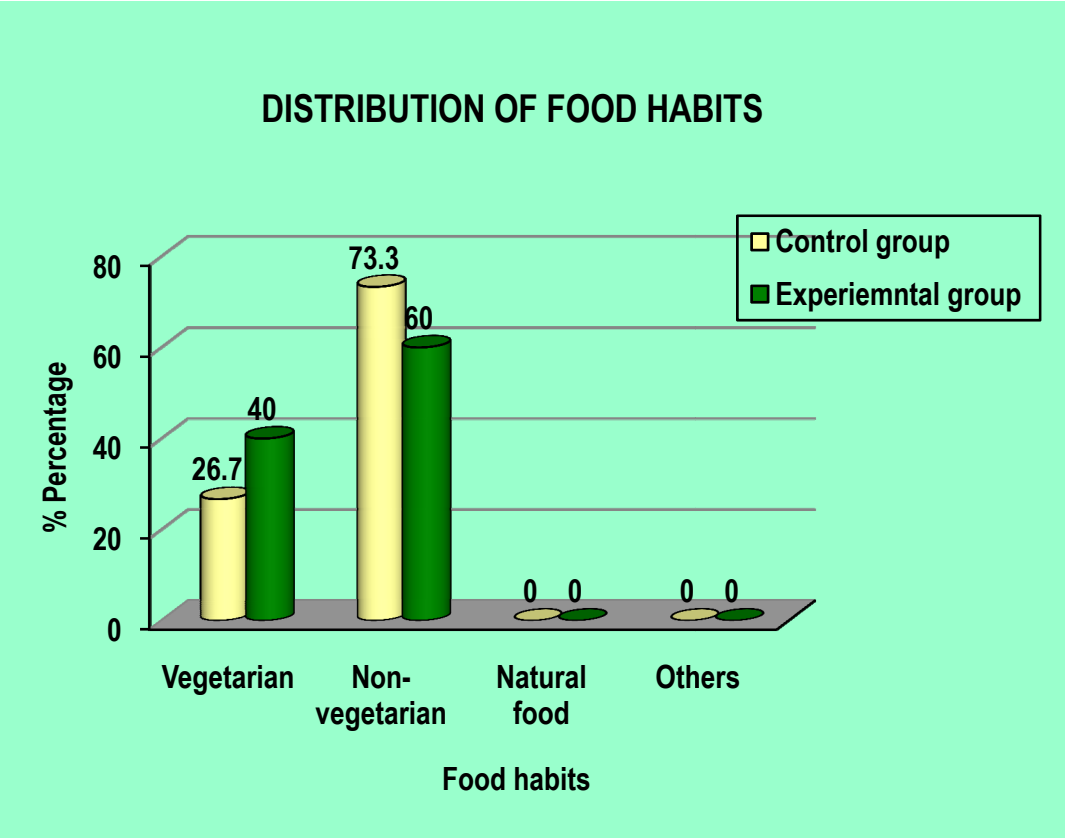


Fig. 11. Percentage distribution of subjects in Experimental group and control group according to their food habits.

The above cylindrical bar diagram shows that majority of subjects were (73.3%) 22 of them taking Non vegetarian in control group and (60%) 18 of them taking Non vegetarian in experimental group.

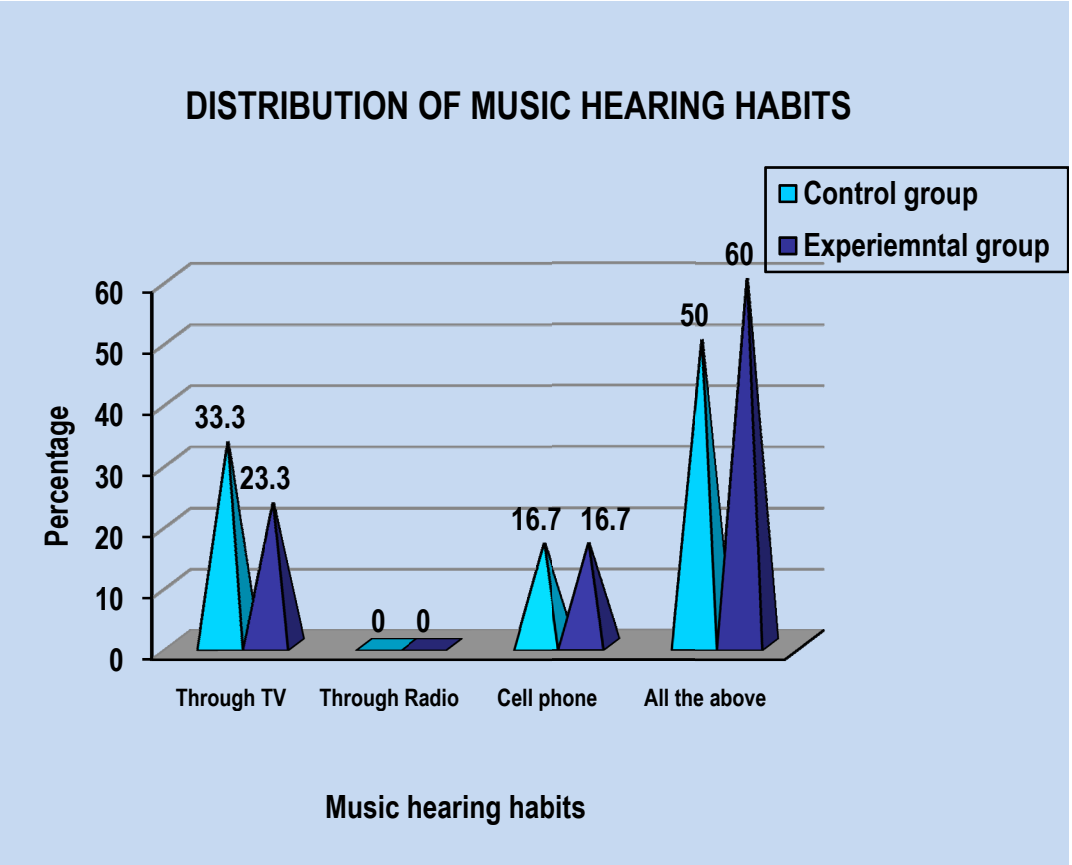


Fig. 12. Percentage distribution of subjects in Experimental group and control group according to the music hearing habits.

The above cone diargram shows that majority of subjects were (50%) 15 of them hearing music through TV, Radio and cell phone in control group and (60%) 18 of them hearing music through TV, Radio and cell phone in experimental group.

SECTION – II

Description of level of pain among children undergone surgical procedures, in experimental group and control group.

Table -2

Frequency and percentage distribution of pretest level of pain among children in control group

Level of pain	Control group - Pretest							
	2nd Day Morning		2nd Day Evening		3rd Day Morning		3rd Day Evening	
	f	%	f	%	f	%	f	%
No	-	-	-	-	-	-	-	-
Mild	-	-	-	-	-	-	-	-
Moderate	-	-	-	-	-	-	1	3.3
Severe	30	100	30	100	30	100	29	96.7
Total	30	100	30	100	30	100	30	100

In control group on 2nd Day Morning none of the participants had no mild, moderate pain, (100%) 30 of the children were having severe pain. on 2nd Day Evening none of them having no pain, mild, moderate pain, (100%) 30 of the children were having severe pain. on 3rd Day Morning no pain, mild, moderate pain, (100%) 30 of the children were having severe pain. on 3rd Day Evening none of the participants had no mild pain, (3.3%) 1 of the children were having moderate pain, (96.7%) 29 of the children were having severe pain.

Table - 3

Frequency and percentage distribution of pretest level of pain among children in experimental group

Level of pain	Experimental group - Pretest							
	2nd Day - Morning		2nd Day Evening		3rd Day - Morning		3rd Day Evening	
	Pre test		Pre test		Pre test		Pre test	
	f	%	f	%	f	%	f	%
No	-	-	-	-	-	-	-	-
Mild	-	-	-	-	-	-	1	3.3
Moderate	-	-	9	30	30	100	29	96.7
Severe	30	100	21	70	-	-	-	-
Total	30	100	30	100	30	100	30	100

In experimental group on 2nd Day Morning none of the participants had no mild, moderate pain, (100%) 30 of the children were having severe pain. on 2nd Day Evening none of the participants had no mild, (30%) 9 of the children were having moderate pain, (70%) 21 of the children were having severe pain. on 3rd Day Morning none of the participants had no mild pain,(100%) 30 of the children were having moderate pain, None of the participants had no severe pain. on 3rd Day Evening (3.3%) 1 of the children having mild pain, (96.7%) 29 of the children were having moderate pain, None of the participants had no severe pain.

Table - 4

Frequency and percentage distribution of posttest level of pain among children in control group

Level of pain	Control group - Posttest							
	2nd Day Morning		2nd Day Evening		3rd Day - Morning		3rd Day Evening	
	f	%	f	%	f	%	f	%
No	-	-	-	-	-	-	-	-
Mild	-	-	-	-	-	-	-	-
Moderate	-	-	-	-	-	-	1	3.3
Severe	30	100	30	100	30	100	29	96.7
Total	30	100	30	100	30	100	30	100

In control group on 2nd Day Morning none of the participants had mild, moderate pain, (100%) 30 of the children were having severe pain. on 2nd Day Evening none of them having no pain, mild, moderate pain, (100%) 30 of the children were having severe pain. on 3rd Day Morning no pain, mild, moderate pain, (100%) 30 of the children were having severe pain. on 3rd Day Evening none of the participants had no mild pain, (3.3%) 1 of the children were having moderate pain, (96.7%) 29 of the children were having severe pain.

Table -5

Frequency and percentage distribution of posttest level of pain among children in experimental group

Level of pain	Experimental group - Posttest							
	2nd Day Morning		2nd Day Evening		3rd Day -Morning		3rd Day Evening	
	f	%	f	%	f	%	f	%
No	-	-	-	-	-	-	-	-
Mild	-	-	-	-	-	-	24	80
Moderate	4	13.3	28	93.3	30	100	6	20
Severe	26	86.7	2	6.7	-	-	-	-
Total	30	100	30	100	30	100	30	100

In experimental group on 2nd Day Morning none of the participants had no mild, (13.3%) 4 of the children were having moderate pain, (86.7%) 26 of the children were having severe pain. on 2nd Day Evening none of the participants had no mild pain, (93.3%) 28 of the children were having moderate pain, (6.7%) 2 of the children were having severe pain. on 3rd Day Morning none of the participants had no mild pain, (100%) 30 of the children were having moderate pain, none of the participants had no severe pain. In 3rd Day Evening none of them having no pain, (80%) 24 of the children having mild pain, (20%) 6 of the children were having moderate pain, None of the participants had no severe pain.

SECTION – III

Description of the effectiveness of music therapy among children undergone surgical procedures, in experimental group.

Table -6

Effectiveness of Music therapy on pain among children in experimental group.

Pain Post operative day	Experimental Group pre test			Experimental Group post test			Mean Difference	t-value	p-value
	Range	Mean	SD	Range	Mean	SD			
2nd day-Morning	7-9	8.2	0.66	6-8	7.23	0.68	0.97	29	**0.000*** **
2nd day-Evening	6-8	6.77	0.57	5-7	5.83	0.53	0.94	20.14	0.000***
3rd day - Morning	5-6	5.46	0.51	4-5	4.56	0.50	0.9	16.15	0.000***
3rd day - Evening	3-5	4.16	0.46	3-4	3.2	0.41	0.96	29	0.000***

(* P<0.05 Significant , ** p<0.01 and *** P<0.001 highly significant)

This table reveals in pre-test, 2nd day-Morning mean scores and SD of pain was8.2 and 0.66, in post test 2nd day-morning mean scores and SD of pain was 7.23 and 0.68. the mean difference of pre test and post test was 0.97, the calculated t- value was 29 and the p – value was 0.000, in pre-test, 3rd day-evening mean scores and SD of pain was 4.16 and 0.46, in post test 3rd day-evening mean scores and SD of pain was 3.2 and 0.41. the mean difference of pre test and post test was 0.96, the calculated t- value was 29 and the p – value was 0.000 so it is highly significant.

Table - 7

Effectiveness of Music therapy on systolic pressure among children in experimental group.

Systolic BP Post operative day	Experimental Group pre test			Experimental Group post test			Mean Difference	t-value	p-value
	Range	Mean	SD	Range	Mean	SD			
2nd day-Morning	110-120	118	4.06	100-120	117	5.95	1	1.79	0.083
2nd day-Evening	110-120	119	4.06	100-120	108.3	5.31	10.7	1.11	0.275
3rd day - Morning	100-120	104.33	5.68	100-110	100.67	2.54	3.66	4.09	0.000***
3rd day - Evening	100-110	100.33	1.83	100-110	98.33	1.82	2	3.21	0.011*

(* P<0.05 Significant , ** p<0.01 and *** P<0.001 highly significant)

This table reveals in pre-test, 2nd day-Morning mean scores and SD of systolic pressure was118 and 4.06, in post test 2nd day-morning mean scores and SD of systolic pressure was 117 and 5.95. the mean difference of pre test and post test was 1, the calculated t- value was 1.79 and the p – value was 0.083, in pre-test, 3rd day-evening mean scores and SD of systolic pressure was 100.3 and 1.83, in post test 3rd day-evening mean scores and SD of systolic pressure was 98.33 and 1.82. the mean difference of pre test and post test was 2, the calculated t- value was 3.21 and the p – value was 0.0011 so it is highly significant.

Table - 8

Effectiveness of Music therapy on diastolic pressure among children in experimental group.

Diastolic BP Post operative day	Experimental Group pre test			Experimental Group post test			Mean Difference	t-value	p-value
	Range	Mean	SD	Range	Mean	SD			
2nd day-Morning	70-90	76.67	6.06	60-80	68	6.10	**8.67**	**10.93**	**0.000***
2nd day-Evening	60-80	66	5.63	60-70	65.67	5.04	0.33	0.27	0.786
3rd day – Morning	60-70	61.67	3.79	60-70	61	3.05	0.6	1.44	0.161
3rd day – Evening	60-70	61	3.05	60-70	60.3	1.82	0.7	1.99	0.015*

(* P<0.05 Significant , ** p<0.01 and *** P<0.001 highly significant)

This table reveals in pre-test, 2nd day-Morning mean scores and SD of diastolic pressure was 76.67 and 6.06, in post test 2nd day-evening mean scores and SD of diastolic pressure was 68 and 6.10. the mean difference of pre test and post test was 8.67, the calculated t- value was 10.93 and the p – value is 0.000. so it is highly significant.

Table - 9

Effectiveness of Music therapy on pulse rate among children in experimental group.

Pulse rate Post operative day	Experimental Group pre test			Experimental Group post test			Mean Difference	t-value	p-value
	Range	Mean	SD	Range	Mean	SD			
2nd day-Morning	94-98	96.8	1.12	92-96	95.06	1.14	**1.74**	**13.73**	**0.000*** **
2nd day-Evening	92-96	93.73	1.14	90-94	91.8	1.21	1.93	29	0.000***
3rd day – Morning	88-94	90.4	1.69	86-92	88.3	1.49	2.1	11.55	0.000***
3rd day – Evening	84-88	86.93	1.26	84-88	85.67	1.06	1.26	7.08	0.000***

(* P<0.05 Significant , ** p<0.01 and *** P<0.001 highly significant)

This table reveals in pre-test, 2nd day-Morning mean scores and SD of pulse rate was 96.8and 1.12, in post test 2nd day-morning mean scores and SD of pulse rate was 95.06 and 1.14. the mean difference of pre test and post test was 1.74, the calculated t- value was 13.73 and the p – value was 0.000, in pre-test, 3rd day-evening mean scores and SD of pulse rate was 86.93 and 1.26, in post test 3rd day-evening mean scores and SD of pulse rate was 85.67 and 1.06. the mean difference of pre test and post test was 1.26, the calculated t- value was 7.08 and the p – value was 0.000 so it is highly significant.

Table. 10

Effectiveness of Music therapy on respiration rate among children in experimental group

Respiratory Post operative day	Experimental Group pre test			Experimental Group post test			Mean Difference	t-value	p-value
	Range	Mean	SD	Range	Mean	SD			
2nd day- Morning	32-38	36.4	1.42	30-36	34.13	1.56	**2.27**	**12.23**	**0.000*** **
2nd day- Evening	30-36	32.8	1.35	28-34	30.27	1.17	2.53	13.59	0.000** *
3rd day - Morning	28-32	30.13	1.38	24-32	26.93	1.55	3.2	4.96	0.000** *
3rd day - Evening	24-32	26.93	1.55	22-30	24.93	1.72	2	12.04	0.000** *

(* P<0.05 Significant , ** p<0.01 and *** P<0.001 highly significant)

This table reveals in pre-test, 2nd day-Morning mean scores and SD of respiratory rate was 36.4 and 1.42, in post test 2nd day-morning mean scores and SD of respiratory rate was 34.13 and 1.56. the mean difference of pre test and post test was 2.27, the calculated t- value was 12.23 and the p – value was 0.000, in pre-test, 3rd day-evening mean scores and SD of respiratory rate was 26.93 and 1.55, in post test 3rd day-evening mean scores and SD of respiratory rate was 24.93 and 1.72. the mean difference of pre test and post test was 2, the calculated t- value was 12.04 and the p – value was 0.000 so it is highly significant.

SECTION-IV

Comparition of the post test level of pain among children undergone surgical procedures, in experimental group and control group.

Table. 11

Comparition of the post test level of pain among children in control group and experimental group

Pain Post operative day	Control Group post test			Experimental Group post test			Mean Difference	t-value	p-value
	Range	Mean	SD	Range	Mean	SD			
2nd day-Morning	7-9	8.3	0.54	6-8	7.23	0.68	**1.07**	**6.91**	**0.000*** **
2nd day-Evening	7-9	8.33	0.53	5-7	5.83	0.53	2.5	17.97	0.000***
3rd day - Morning	6-8	7.33	0.54	4-5	4.56	0.50	2.77	20.38	0.000***
3rd day - Evening	6-8	7.33	0.53	3-4	3.2	0.41	4.13	33.22	0.000***

(* P<0.05 Significant , ** p<0.01 and *** P<0.001 highly significant)

This table reveals that post test score of mean and SD of experimental group and control group. In control group 2nd day-Morning post test mean scores and SD of pain was 8.3 and 0.54, in experimental group 2nd day-morning post test mean scores and SD of pain was 7.23 and 0.68. the mean difference of control and experimental group was 1.07, the calculated t- value was 6.91 and the p – value was 0.000. In control group 3rd day-evening post test mean scores and SD of pain was 7.33 and 0.53, in experimental group 3rd day-evening post test mean scores and SD of pain was 3.2 and 0.41. the mean difference of control and experimental group was 4.13, the calculated t- value was 33.22 and the p – value was 0.000 so it is highly significant.

Table – 12

Comparition of the post test level of systolic blood pressure among children in control group and experimental group

Systolic BP Post operative day	Control Group post test			Experimental Group post test			Mean Difference	t-value	p-value
	Range	Mean	SD	Range	Mean	SD			
2nd day-Morning	120-120	120	0	100-120	117	5.95	3	2.75	**0.007****
2nd day-Evening	110-120	119.18	1.83	100-120	108.3	5.31	10.9	12.78	0.000***
3rd day - Morning	110-120	113.33	4.79	100-110	100.67	2.54	12.67	18.11	0.000***
3rd day - Evening	110-120	110.67	2.53	100-110	98.33	1.82	12.34	14.78	0.000***

(* P<0.05 Significant , ** p<0.01 and *** P<0.001 highly significant)

This table reveals that post test score of mean and SD of experimental group and control group. In control group 2nd day-Morning post test mean scores and SD of sysstolic pressure was 120 and 0, in experimental group 2nd day-morning post test mean scores and SD of diastolic pressure was 117 and 5.95. the mean difference of control and experimental group was 3, the calculated t- value was 2.75 and the p – value was 0.007. in control group 3rd day-evening post test mean scores and SD of systolic pressure was 110.67 and 2.53, in experimental group 3rd day-evening post test mean scores and SD of systolic pressure was 98.33 and 1.82. the mean difference of control and experimental group was 12.34, the calculated t- value was 14.78 and the p – value was 0.000 so it is highly significant.

Table – 13

Comparition of the post test level of diastolic blood pressure among children in control group and experimental group

Diastolic BP Post operative day	Control Group post test			Experimental Group post test			Mean Difference	t-value	p-value
	Rnge	Mean	SD	Range	Mean	SD			
2nd day-Morning	60-80	70.67	6.39	60-80	68	6.10	2.67	1.65	0.103
2nd day-Evening	60-70	65.53	4.97	60-70	65.67	5.04	0.14	0.103	0.918
3rd day - Morning	60-80	68	6.10	60-70	61	3.05	7	5.61	0.000***
3rd day - Evening	60-80	65.67	5.68	60-70	60.3	1.82	5.37	4.89	0.000***

(* P<0.05 Significant , ** p<0.01 and *** P<0.001 highly significant)

This table reveals that post test score of mean and SD of experimental group and control group. In control group 2nd day-Morning post test mean scores and SD of diastolic pressure was 70.67 and 6.39, in experimental group 2nd day-morning post test mean scores and SD of diastolic pressure was 68 and 6.10. the mean difference of control and experimental group was 2.67, the calculated t- value was 1.65 and the p – value was 0.103. in control group 3rd day-evening post test mean scores and SD of diastolic pressure was 65.67 and 5.68, in experimental group 3rd day-evening post test mean scores and SD of diastolic pressure was 60.3 and 1.82. the mean difference of control and experimental group was 5.37, the calculated t- value was 4.89 and the p – value was 0.000 so it is highly significant.

Table - 14

Comparition of the post test level of pulse rate among children in control group and experimental group

Pulse rate Post operative day	Control Group post test			Experimental Group post test			Mean Difference	t-value	p-value
	Range	Mean	SD	Range	Mean	SD			
2nd day-Morning	90-98	94.5	1.96	92-96	95.06	1.14	**0.56**	**1.28**	**0.203**
2nd day-Evening	90-98	93.66	1.75	90-94	91.8	1.21	1.8	4.80	0.000***
3rd day - Morning	88-96	92.06	1.78	86-92	88.3	1.49	3.76	8.801	0.000***
3rd day - Evening	88-94	91.27	1.53	84-88	85.67	1.06	5.6	16.47	0.000***

(* P<0.05 Significant , ** p<0.01 and *** P<0.001 highly significant)

This table reveals that post test score of mean and SD of experimental group and control group. In control group 2nd day-Morning post test mean scores and SD of pulse rate was 94.5and 1.96, in experimental group 2nd day-morning post test mean scores and SD of pulse was 95.06 and 1.14. the mean difference of control and experimental group was 0.56, the calculated t- value was 1.28 and the p – value was 0.203. In control group 3rd day-evening post test mean scores and SD of pulse rate was 91.27 and 1.53, in experimental group 3rd day-evening post test mean scores and SD of pulse rate was 91.27 and 1.53. the mean difference of control and experimental group was 5.6, the calculated t- value was 16.47 and the p – value was 0.000 so it is highly significant.

Table - 15

Comparition of the post test level of respiration rate among children in control group and experimental group

Respiratory rate Post operative day	Control Group post test			Experimental Group post test			Mean Difference	t-value	p-value
	Range	Mean	SD	Range	Mean	SD			
2nd day- Morning	30-38	34.6	2.11	30-36	34.13	1.56	**0.44**	**0.97**	**0.335**
2nd day- Evening	30-36	33.46	1.96	28-34	30.27	8.17	3.19	0.13	0.897
3rd day - Morning	28-36	32.33	1.97	24-32	26.93	1.55	5.4	8.72	0.000***
3rd day - Evening	28-34	31.07	2.08	22-30	24.93	1.72	6.14	12.43	0.000***

(* P<0.05 Significant , ** p<0.01 and *** P<0.001 highly significant)

This table reveals that post test score of mean and SD of experimental group and control group. In control group 2nd day-Morning post test mean scores and SD of respiratory rate was 34.6 and 2.11, in experimental group 2nd day-morning post test mean scores and SD of respiratory rate was 34.13 and 1.56. the mean difference of control and experimental group was 0.44, the calculated t- value was 0.97 and the p – value was 0.335. In control group 3rd day-evening post test mean scores and SD of respiratory rate was 31.07 and 2.08, in experimental group 3rd day-evening post test mean scores and SD of respiratory rate was 24.93 and 1.72. the mean difference of control and experimental group was 6.14, the calculated t- value was 12.43 and the p – value was 0.000 so it is highly significant.

SECTION-V

Association of the level of pain among children undergone surgical procedures, with their selected demographic variables in both groups.

Table -16

Association between the post test level of pain and selected demographic variables of the children in control group 3rd post operative day morning

n=30

Demographic variables	No		Mild		Moderate		Severe		Chi squwere	p-value
	f	%	f	%	f	%	f	%		
1.Age of the child										
6-8 years	-	-	-	-	0	0	14	46.7	1.78	0.40
8-10years	-	-	-	-	1	3.3	10	33.3	(df=2)	9
10 -12years	-	-	-	-	0	0	5	16.7		
2.Gender										
Male	-	-	-	-	0	0	20	66.7	2.07	0.15
Female	-	-	-	-	1	3.3	9	30	(df=1)	0
3.Religion										
Hindu	-	-	-	-	1	3.3	18	60		
Muslim	-	-	-	-	0	0	7	23.3	0.59	0.74
Christian	-	-	-	-	0	0	4	13.3	(df=2)	1
Others	-	-	-	-	0	0	0	0		
4.Place of birth										
Urban	-	-	-	-	1	3.3	11	36.7	1.55	0.46
Rural	-	-	-	-	0	0	12	40	(df=2)	0
Semi urban	-	-	-	-	0	0	6	20		
5.Education of the child										
Istd - IIstd	-	-	-	-	0	0	11	36.7		
III-std - IV std	-	-	-	-	1	3.3	12	40	1.35	0.50
IV-std - V std	-	-	-	-	0	0	6	20	(df=2)	8
VI and above	-	-	-	-	0	0	0	0		

Demographic variables	No		Mild		Moderate		Severe		Chi squwere	p-value
	f	%	f	%	f	%	f	%		
6.Monthly income of the family										
Rs.1000 - 2500	-	-	-	-	0	0	5	16.7		
Rs.2500-3500	-	-	-	-	1	3.3	16	53.3	0.79	0.67
Rs.3500 - 4500	-	-	-	-	0	0	8	26.7	(df=2)	3
Rs.4500 & above	-	-	-	-	0	0	0	0		
7.Previous hospitalization										
IPD	-	-	-	-	0	0	4	13.3	0.517	0.77
OPD	-	-	-	-	0	0	6	20	(df=2)	2
Not hospitalization	-	-	-	-	1	3.3	19	63.3		
8.Education of pwerents										
Non formal education	-	-	-	-	1	3.3	21	70	0.376 (df=2)	0.82 9
Primary	-	-	-	-	0	0	4	13.3		
High school	-	-	-	-	0	0	4	13.3		
Higher secondary	-	-	-	-	0	0	0	0		
Degree	-	-	-	-	0	0	0	0		
9.Food habits										
Vegetarian	-	-	-	-	0	0	8	26.7	0.376	
Non-vegetarian	-	-	-	-	1	3.3	21	70	(df=1)	0.540
Natural food	-	-	-	-	0	0	0	0		
Others	-	-	-	-	0	0	0	0		
10.Music hearing habits										
Through TV	-	-	-	-	0	0	10	33.3		
Through radio	-	-	-	-	0	0	0	0	1.03	0.596
Cell phone	-	-	-	-	0	0	5	16.7	(df=2)	
All the above	-	-	-	-	1	3.3	14	46.7		

(*-P<0.05 ,significant and **-P<0.01 & ***-P<0.001 , Highly significant)

There was a no significant association found between the 3rd post operative day morning, post test of control group with selected demographic variables.

Table- 17

Association between the post test level of pain and selected demographic variables of the children in control group 3rd post operative day evening

n=30

Demographic variables	No		Mild		Moderate		Severe		chi - squwere	p-value
	f	%	f	%	f	%	f	%		
1.Age of the child										
6-8 years	-	-	-	-	0	0	14	46.7	1.78	0.40
8-10 years	-	-	-	-	1	3.3	10	33.3	(df=2)	9
10 -12 years	-	-	-	-	0	0	5	16.7		
2.Gender										
Male	-	-	-	-	0	0	20	66.7	2.06	0.15
Female	-	-	-	-	1	3.3	9	30	(df=1)	0
3.Religion										
Hindu	-	-	-	-	1	3.3	18	60		
Muslim	-	-	-	-	0	0	7	23.3	0.59	0.74
Christian	-	-	-	-	0	0	4	13.3	(df=2)	1
Others	-	-	-	-	0	0	0	0		
4.Place of birth										
Urban	-	-	-	-	1	3.3	11	36.7	1.55	
Rural	-	-	-	-	0	0	12	40	(df=2)	0.46
Semi urban	-	-	-	-	0	0	6	20		0
5.Education of the child										
Istd - IIstd	-	-	-	-	0	0	11	36.7	1.35	0.50
III-std - IV std	-	-	-	-	1	3.3	12	40	(df=2)	8
IV-std - V std	-	-	-	-	0	0	6	20		
VI and above	-	-	-	-	0	0	0	0		
6.Monthly income of the family										
Rs.1000 - 2500	-	-	-	-	0	0	5	16.7		
Rs.2500-3500	-	-	-	-	1	3.3	16	53.3	0.79	0.67
Rs.3500 - 4500	-	-	-	-	0	0	8	26.7	(df=2)	3
Rs.4500 & above	-	-	-	-	0	0	0	0		

Demographic variables	No		Mild		Moderate		Severe		chi - squwere	p-value
	f	%	f	%	f	%	f	%		
7.Previous hospitalization										
IPD	-	-	-	-	0	0	4	13.3	0.517	0.77
OPD	-	-	-	-	0	0	6	20	(df=2)	2
Not hospitalization	-	-	-	-	1	3.3	19	63.3		
8.Education of pwerents										
Non formal education	-	-	-	-	1	3.3	21	70	0.376 (df=2)	0.82
Primary	-	-	-	-	0	0	4	13.3		9
High school	-	-	-	-	0	0	4	13.3		
Higher secondary	-	-	-	-	0	0	0	0		
Degree	-	-	-	-	0	0	0	0		
9.Food habits										
Vegetarian	-	-	-	-	0	0	8	26.7		
Non-vegetarian	-	-	-	-	1	3.3	21	70	0.376	0.54
Natural food	-	-	-	-	0	0	0	0	(df=1)	0
Others	-	-	-	-	0	0	0	0		
10.Music hearing habits										
Through TV	-	-	-	-	0	0	10	33.3	1.03	0.59
Through radio	-	-	-	-	0	0	0	0	(df=2)	6
Cell phone	-	-	-	-	0	0	5	16.7		
All the above	-	-	-	-	1	3.3	14	46.7		

(*-P<0.05 ,significant and **-P<0.01 & ***-P<0.001 , Highly significant)

There was a no significant association found between the 3rd post operative day evening, post test of control group with selected demographic variables.

Table - 18

Association between the post test level of pain and selected demographic variables of the children in experimental group 3rd post operative day morning

n=30

Demographic variables	No		Mild		Moderate		Severe		Chi-squwere	p-value
	f	%	f	%	f	%	f	%		
1.Age of the child										
6-8years	-	-	-	-	11	36.7	-	-		
8-10years	-	-	-	-	14	46.7	-	-	0	1
10 -12years	-	-	-	-	5	16.7	-	-		
2.Gender										
Male	-	-	-	-	16	53.3	-	-		
Female	-	-	-	-	14	46.7	-	-	0	1
3.Religion										
Hindu	-	-	-	-	13	43.3	-	-		
Muslim	-	-	-	-	11	36.7	-	-	0	1
Christian	-	-	-	-	6	20	-	-		
Others	-	-	-	-	0	0	-	-		
4.Place of birth										
Urban	-	-	-	-	9	30	-	-		
Rural	-	-	-	-	14	46.7	-	-	0	1
Semi urban	-	-	-	-	7	23.3	-	-		
5.Education of the child										
Istd - IIstd	-	-	-	-	9	30	-	-	0	1
III-std - IV std	-	-	-	-	14	46.7	-	-		
IV-std - V std	-	-	-	-	7	23.3	-	-		
VI and above	-	-	-	-	0	0	-	-		
6.Monthly income of the family										
Rs.1000 - 2500	-	-	-	-	3	10	-	-	0	1
Rs.2500-3500	-	-	-	-	18	60	-	-		

Demographic variables	No		Mild		Moderate		Severe		Chi-squwere	p-value
	f	%	f	%	f	%	f	%		
Rs.3500 - 4500	-	-	-	-	9	30	-	-		
Rs.4500 & above	-	-	-	-	0	0	-	-		
7.Previous hospitalization										
IPD	-	-	-	-	5	16.7	-	-	0	1
OPD	-	-	-	-	7	23.3	-	-		
Not hospitalization	-	-	-	-	18	60	-	-		
8.Education of pwerents										
Non formal education	-	-	-	-	18	60	-	-	0	1
Primary	-	-	-	-	6	20	-	-		
High school	-	-	-	-	6	20	-	-		
Higher secondary	-	-	-	-	-	-	-	-		
Degree	-	-	-	-	-	-	-	-		
9.Food habits										
Vegetarian	-	-	-	-	12	40	-	-		
Non-vegetarian	-	-	-	-	18	60	-	-	0	1
Natural food	-	-	-	-	0	0	-	-		
Others	-	-	-	-	0	0	-	-		
10.Music hearing habits										
Through TV	-	-	-	-	7	23.3	-	-	0	1
Through radio	-	-	-	-	-	0	-	-		
Cell phone	-	-	-	-	5	16.7	-	-		
All the above	-	-	-	-	18	60	-	-		

(*-P<0.05 ,significant and **-P<0.01 & ***-P<0.001 , Highly significant)

There was a no significant association found between the 3rd post operative day morning, post test of expremental group with selected demographic variables.

Table- 19

Association between the post test level of pain and selected demographic variables of the children in experimental group 3rd post operative day evening.

n=30

Demographic variables	No		Mild		Moderate		Severe		X2 value	p-value
	f	%	f	%	f	%	f	%		
1.Age of the child										
6-8years	-	-	10	33.3	1	3.3	-	-	1.46	0.482
8-10years	-	-	10	33.3	4	13.3	-	-	(df=2)	
10 -12years	-	-	4	13.3	1	3.3	-	-		
2.Gender										
Male	-	-	15	50	1	3.3	-	-	4.05	0.04*
Female	-	-	9	30	5	16.7	-	-	(df=1)	
3.Religion										
Hindu	-	-	11	33.3	2	6.7	-	-		
Muslim	-	-	9	30	2	6.7	-	-	0.863	0.650
Christian	-	-	4	13.3	2	6.7	-	-	(df=2)	
Others	-	-	0	0	0	0	-	-		
4.Place of birth										
Urban	-	-	8	26.7	1	3.3	-	-	0.783	0.676
Rural	-	-	11	33.3	3	10	-	-	(df=2)	
Semi urban	-	-	5	16.7	2	6.7	-	-		
5.Education of the child										
Istd - IIstd	-	-	7	23.3	2	6.7	-	-	0.188	0.910
III-std - IV std	-	-	11	33.3	3	10	-	-	(df=2)	
IV-std - V std	-	-	6	20	1	3.3	-	-		
VI and above	-	-	0	0	0	0	-	-		
6.Monthly income of the family										
Rs.1000 - 2500	-	-	1	3.3	2	6.7	-	-	4.65	0.098

Demographic variables	No		Mild		Moderate		Severe		X2 value	p-value
	f	%	f	%	f	%	f	%		
Rs.2500-3500	-	-	15	50	3	10	-	-	(df=2)	
Rs.3500 - 4500	-	-	8	26.7	1	3.3	-	-		
Rs.4500 & above	-	-	0	0	0	0	-	-		
7.Previous hospitalization										
IPD	-	-	4	13.3	1	3.3	-	-	0.446	0.80
OPD	-	-	5	16.7	2	6.7	-	-	(df=2)	
Not hospitalization	-	-	15	50	3	10	-	-		
8.Education of the parents										
Non formal education	-	-	13	43.3	5	16.7	-	-		
Primary	-	-	5	16.7	1	.3	-	-	2.22 (df=2)	0.329
High school	-	-	6	20	0	0	-	-		
Higher secondary	-	-	0	0	0	0	-	-		
Degree	-	-					-	-		
9.Food habits										
Vegetarian	-	-	11	36.7	1	3.3	-	-		
Non-vegetarian	-	-	13	21.7	5	16.7	-	-	1.701	0.192
Natural food	-	-	0	0	0	0	-	-	(df=1)	
Others	-	-	0	0	0	0	-	-		
10.Music hearing habits										
Through TV	-	-	6	20	1	3.3	-	-	1.52	0.468
Through radio	-	-	0	0	0	0	-	-	(df=2)	
Cell phone	-	-	3	10	2	6.7	-	-		
All the above	-	-	15	50	3	10	-	-		

(*-P<0.05 ,significant and **-P<0.01 & ***-P<0.001 , Highly significant)

There was a no significant association found between the 3rd post operative day evening, post test of expremental group with selected demographic variables.

Discussion

CHAPTER-V
DISCUSSION

This chapter deals with the findings of the study based on the interpretation of the statistical analysis. The findings were discussed in relation to the objectives of the study. The findings were supported by the review of literature.

The purpose of the study is to assess the Effectiveness of Music therapy on pain among children undergone surgical procedures, in Instituteof Child Health and Research Centre at Government Rajaji Hospital, Madurai.

5.1 DEMOGRAPHIC DETAILS OF THE STUDY

In considering the age wise distribution of children in the experimental group (36.7%) 11 children were in 6 to 8 years of age, (46.7%) 14 children were 8 to 10 years of age and (16.7%)5 children were in 10 to 12years of age. In the control group (46.7 %)14of children were between 6 to 8 years of age, (36.7%)11 children were in 8 to 10 years of age, (16.7%) 5 children were in 10 to 12 years of age

Regarding gender wise distribution in experimental group (66.7%) 20 children were male children and (33.3%) 10 children were female. In the control group (53.3%) 16 were male children and (46.7%) 14 were female children participated in the study.

Based on the religion wise distribution in experimental group (43.3%)13 children were Hindus, (36.7%) 11 children were Christians, and (20%) 6 children were Muslims. In the control group around (63.3%) 19 children were Hindus, (23.3%) 7 children were Christians, and (13.3%) 4 children were Muslims.

Considering the place of residence of the study participants in the experimental group (30%) 9 children were lives in urban wereas,(46.7%) 14 children were lives in rural wereas, and (23.3%) 7 children were lives in semi urban wereas. In the control group (40%) 12 children were lives in rural wereas , (40%) 12 children were from urban wereas ,and (20%) 6 children were live in semi urban.

On basis of child education in experimental group (30%) 9 were studying in 1 to 2 Std, (46.7%) 14 were studying in 3 - 4 Std, and (23.3%) 7 were studying in 4 – 6 Std. In the control group the (36.7%) 11 were studying in 1 to 2 Std, (43.3%) 13 were studying in 3 - 4 Std, and (20%) 6 were studying in 4 – 6 Std.

With view of the monthly income of the family, In the experimental group (10%) 3 of them have 1000-2500 Rs per month,(60%) 18 of them have 2500-3500 Rs per month, and (30%) 9 of them have 3500-4500 Rs per month. In the control group (16.7%) 5 of them have 1000-2500 Rs per month, (56.6%) 17 of them have 2500-3500 Rs per month, and (26.7%) 8 of them have 3500-4500 Rs per month.

In considering the previous exposure of hospitalization, In experimental group (16.7%) 5 children having experience in Inpatient department, (23.3%)7 children were having experience of Outpatient department, and (60%) 18 of children has not hospitalized. In control group (13.3%) 4 children having experience in Inpatient department, (20%) 6 children having experience of Outpatient department, and (66.7%) 20 of children has not hospitalized.

When considering the education of the parents,In experimental group (60%)18 parents having non formal education, (20%) 24 parents having primary education, and (20%) 6 parents having high school education. In the control group (73.3%) 22

parents having non formal education, (13.3%) 4 parents having primary education, and (13.3%) 4 parents having high school education.

Regarding the food habits of the children, In experimental group (40%)12 of them taking vegetarian foods, and (60)%18 of them taking non –vegetarian foods. In control group (26.7%) 8 of them taking vegetarian foods, and (73.3%)22 of them taking non –vegetarian foods.

When considering a Music hearing habits of the children, In experimental group (23.3%) 7 of them hearing music through the television, (16.7%) 5 of them hearing music through the cell phone, and (60%) 18 of them hearing music through the television, radio, and cellphone. In control group (33.3%)10 of them hearing music through the television, (16.7%)5of them hearing music through the cell phone, and (50%)15 of them hearing music through the television, radio, and cellphone.

5.2 DISCUSSION OF OBJECTIVES

The first objective of the study was to assess the level of pain among children undergone surgical procedures in experimental group and control group.

Data were analyzed using descriptive statistics. Mean and standard deviation of the level of pain. It represents the pretest score of the level of pain of the children.

In control group on 2nd Day Morning none of the participants had no mild, moderate pain, (100%) 30 of the children were having severe pain. on 2nd Day Evening none of them having no pain, mild, moderate pain, (100%) 30 of the children were having severe pain. on 3rd Day Morning no pain, mild, moderate pain,

(100%) 30 of the children were having severe pain. on 3rd Day Evening none of the participants had no mild pain, 3.3%(1) of the children were having moderate pain, (96.7%) 29 of the children were having severe pain.

In experimental group on 2nd Day Morning none of the participants had no mild, moderate pain, (100%) 30 of the children were having severe pain. on 2nd Day Evening none of the participants had no mild, (30%) 9 of the children were having moderate pain, (70%) 21 of the children were having severe pain. on 3rd Day Morning none of the participants had no mild pain, (100%) 30 of the children were having moderate pain, None of the participants had no severe pain. on 3rd Day Evening (3.3%) 1 of the children having mild pain, (96.7%) 29 of the children were having moderate pain, None of the participants had no severe pain.

It represents the posttest score of the level of pain of the children.

In control group on 2nd Day Morning none of the participants had mild, moderate pain, (100%) 30 of the children were having severe pain. on 2nd Day Evening none of them having no pain, mild, moderate pain, (100%) 30 of the children were having severe pain. on 3rd Day Morning no pain, mild, moderate pain, (100%) 30 of the children were having severe pain. on 3rd Day Evening none of the participants had no mild pain, (3.3%) 1 of the children were having moderate pain, 96.7%(29) of the children were having severe pain.

In experimental group on 2nd Day Morning none of the participants had no mild, (13.3%) 4 of the children were having moderate pain, (86.7%) 26 of the children were having severe pain. on 2nd Day Evening none of the participants had no mild pain, (93.3%) 28 of the children were having moderate pain, (6.7%) 2 of the

children were having severe pain. on 3rd Day Morning none of the participants had no mild pain, (100%) 30 of the children were having moderate pain, none of the participants had no severe pain. In 3rd Day Evening none of them having no pain, (80%) 24 of the children having mild pain, (20%) 6 of the children were having moderate pain, None of the participants had no severe pain.

In third POD evening the control group pain level reduced some level but not compwere to experimental group pain level.

The second objective of the study was to evaluate the effectiveness of music therapy on pain among children undergone surgical procedures in experimental group.

In experimental group pre-test, 2nd day-Morning mean scores and SD of pain was 8.2 and 0.66, in post test 2nd day-morning mean scores and SD of pain was 7.23 and 0.68. the mean difference of pre test and post test was 0.97, the calculated t- value was 29 and the p – value was 0.000, in pre-test, 3rd day-evening mean scores and SD of pain was 4.16 and 0.46, in post test 3rd day-evening mean scores and SD of pain was 3.2 and 0.41. the mean difference of pre test and post test was 0.96, the calculated t- value was 29 and the p – value was 0.000 so it is highly significant.

The experimental group pretest level of pain wsa higher than the post test score the calculated table value was more than the table value(2.78) so it is significant.

Sigma Theta Tau , (2009) conducted a study to assess and compwere the effect of music therapy on postoperative pain of patient undergone elective abdominal surgery. A quasi-experimental design was used and convenient samples of 30 (15 in

each exp & control group). Pain was measured by Verbal Rating Scale. Music therapy was given as per patient's wish to experimental group and intensity of pain was monitored before and immediately after recovery from anesthesia, during the 1st and 2nd postoperative day for both the groups. Results revealed that those patients who listened to self selected music tapes had significant differences ($p<0.001$) in pain scores when compwered to the control group. The conclusion of study shows that the music is an effective anxiolitic (relaxing agent) which can be beneficial for the early recovery of surgical patients.

Thus the Hypothesis 1 "There is a significant difference between the level of pain among children undergone surgical procedures,of experimental group after music therapy" was accepted.

The third objective was to compare the post test level of pain among children undergone surgical procedures in experimental group and control group.

The post test score of mean and SD of experimental group and control group. In control group 2nd day-Morning post test mean scores and SD of pain was 8.3 and 0.54, in experimental group 2nd day-morning post test mean scores and SD of pain was 7.23 and 0.68. the mean difference of control and experimental group was 1.07, the calculated t- value was 6.91 and the p – value was 0.000. In control group 3rd day-evening post test mean scores and SD of pain was 7.33 and 0.53, in experimental group 3rd day-evening post test mean scores and SD of pain was 3.2 and 0.41. the mean difference of control and experimental group was 4.13, the calculated t- value was 33.22 and the p – value was 0.000.

The control group mean post test level of pain was (7.33) higher than the experimental group mean post test level of pain (3.2).the mean difference between post test of control and experimental grouplevel of pain was found to be significant.

In 3rd day-evening post test systolic pressure, mean difference of control and experimental group was 12.34, the calculated t- value was 14.78 and the p – value was 0.000 so it is highly significant.

In 3rd day-evening post test diastolic pressure, mean difference of control and experimental group was 5.37, the calculated t- value was 4.89 and the p – value was 0.000 so it is highly significant.

In 3rd day-evening post test pulse rate, mean difference of control and experimental group was 5.6, the calculated t- value was 16.47 and the p – value was 0.000 so it is highly significant.

In 3rd day-evening post test respiratory rate, mean difference of control and experimental group was 6.14, the calculated t- value was 12.43 and the p – value was 0.000 so it is highly significant.

Physical parameters showed changes when the pain level is increased after music therapy intervention the physiological parameter come to normal range compare to the control group.

Profound physiologic changes often accompany the experience of pain. Physiologic parameters such as heart rate, respiratory rate, blood pressure, palmar sweating, cortisone levels, transcuatneous oxygen, vagal tone and endorphin concentrations reflect a generalized and complex response to stress. They were not

localized responses to pain, but they provide useful information about the generaldistress levels of children who were experiencing pain. Physiologic parameters provide indirect estimates of pain and presence and strength of pain can only be inferred from the changes in these parameters. Sweet and Mc Grath (1998).

Thus the Hypothesis 2 "There is a significant difference in the post test level of pain among children undergone surgical procedures in experimental group and control group" was accepted.

The fourth objective was to associate the level of pain among children undergone surgical procedures with selected demographic variables in both groups.

There was a no significant association found between the 3rd post operative day morning and evening, post test of control group with selected demographic variables.

There was a no significant association found between the 3rd post operative day morning and evening, post test of expremental group with selected demographic variables.

Thus the Hypothesis 3 "There is a significant association in the level of pain among children undergone surgical procedures with selected demographic variables in both groups" was detained.

Summary, Conclusion & Recommendations

CHAPTER-VI

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter deals with the summary of the study and the conclusions drawn. It clarifies the limitations of the study. The implications and recommendations are given for different areas of Nursing such as practice, education, research and administration in the Health care delivery system.

6.1. SUMMARY OF THE STUDY

Pain is the unpleasant sensory stimulation, especially in children. It will shape their behavior in the future. The pain in children was underestimated and untreated in many clinical settings. The role of the nurses is very important role in managing the pain in children especially during the postoperative period. It helps the child to develop confidence, cooperation and to reduce the anxiety during hospital procedures. The family also needs to manage the child during the painful procedures. Health care professionals have to set the responsibility to reduce the pain and anxiety as much as possible. A Non-Pharmacological procedure shows very effective in managing the pain. Cultural factors affect the pain perception in the children. Hence, this study was undertaken to determine the effectiveness of music therapy on pain among the children undergone abdominal surgeries on the second and third Post operative day.Hence, this study was undertaken to determine the effectiveness of music therapy on pain among children undergone surgical procedure, in G R H, Madurai.

The following objectives were set for the study

- To assess the level of pain among children undergone surgical procedures in experimental group and control group.
- To evaluate the effectiveness of music therapy on pain among children undergone surgical procedures in experimental group.
- To compare the post test level of pain among children undergone surgical procedures in experimental group and control group.
- To associate the level of pain among children undergone surgical procedures with selected demographic variables in both groups

The study was based on the assumption that

- Children who are undergo surgery were susceptible to develop post operative pain.
- Music therapy will minimized the pain level among children.

The following hypothesis were formulated

H_1: There is a significant difference between the level of pain among children undergone surgical procedures,of experimental group after music therapy.

H_2: There is a significant difference in the post test level of pain among children undergone surgical procedures in experimental group and control group.

H_3: There is a significant association in the post test level of pain among children undergone surgical procedures with selected demographic variables in both groups.

The variables studied were

Independent variable→ Music therapy

Dependent variable → Pain in children

Extensive literature review and studies from primary and secondary focus regarding the effects of music therapy on reducing post operative pain among children provided evidence based guidance for the study. This has helped to design the methodology, develop the tool for data collection and the protocol for administering music therapy. The conceptual framework developed for the study was based on the modified Kings Goal attainment Theory (1981).

The tool used for data collection was validated by the experts in the department of Pediatric Surgery and Nursing. Reliability of the tool was assessed by using inter rater reliability correlation coefficient. The instrument was found to be reliable. A pilot study was conducted on ten samples to find out the appropriateness and feasibility of conducting the study and it was found feasible.

The data collection was made for 6 weeks in the post operative wards, in Institute of Child Health and Research centre, at GRH, Madurai. Formal permission was obtained from the Director of the Institute and Head of the Department of Pediatrics Surgery in Institute of Child Health and Research centre, at GRH, Madurai.

The researcher adopted the true experimental research design to assess the effectiveness of music therapy on reducing post operative pain among children 6-12 years. The simple random sampling technique was used to select 60 samples based on the inclusion criteria.

Parents were explained about the purpose of the study and were assured of confidentiality of the data collected. Adequate privacy was provided during the procedure On the first day of sample selection, the demographic data were

collected,and conduct pretest on the second post operative day by using pain visual analog scale and also moniter the physiological parameters then administered the music therapy for experimental group through the head phone for 15-20 mts of two session morning and evening. Post assessment of the level of pain was done after therapy in experimental group with out therapy in control group using the same visual analog scale was obtained.

Descriptive (percentage distribution, mean, standard deviation) and inferential statistics (t- test, Pearson chi squwere test) were used to analyze the data and to test hypothesis. The data were then interpreted and discussed based on the objectives of the study, hypotheses and relevant studies from the literature reviewed.

6.2. MAJOR FINDINGS OF THE STUDY

The data collected was analyzed using both descriptive and inferential statistics.

Among the school children, in control group (46.7%)14 were in the a-ge group of 6-8years in experimental group, (46.7%) 14 were in the age group of the 8-10yrs.

Most of them (63.3%) 19 control group, (43.3%) 13 experimental group belong to Hindu.

Majority (66.7%) 20 control group, (53.3%) 16 experimental group children were in male gender.

Most of the children (40%) 12 control group, (46.7%) 14 experimental group were living in rural area.

Majority fo the children (43.3%) 13 control group, (46.7%) 14 were experimental group were studied in 3-4standard

Majority of the children (56.6%) 17 control group, (60%) 18 experimental group of them have family income between 2500 – 3000.

(66.7%) 20 control group, (60%) 18 experimental group of them children were not hospitalized previously.

(73.3%) 22control group, (60%) 18 experimental group of parents not had any formal education.

(73.3%) 22 control group, (60%) 18 experimental groupi of children were non-vegetarian.

Majority of the children (50%) 15 control group, (60%) 18 experimental group were hear music through TV, Radio, Cell phone.

The experimental group pretest level of pain wsa higher than the post test score the calculated table value was more than the table value(2.78). the mean difference of pre test and post test was 0.96, the calculated t- value was 29 and the p – value was 0.000 so it is highly significant.

The control group mean post test level of pain was (7.33) higher than the experimental group mean post test level of pain (3.2).the mean difference between post test of control and experimental grouplevel of pain was found to be significant. the mean difference of control and experimental group was 4.13, the calculated t- value was 33.22 and the p – value was 0.000 so it is highly significant.

In 3rd day-evening post test systolic pressure, mean difference of control and experimental group was 12.34, the calculated t-value was 14.78 and the p – value was 0.000 so it is highly significant.

In 3rd day-evening post test diastolic pressure, mean difference of control and experimental group was 5.37, the calculated t-value was 4.89 and the p – value was 0.000 so it is highly significant.

In 3rd day-evening post test pulse rate, mean difference of control and experimental group was 5.6, the calculated t- value was 16.47 and the p – value was 0.000 so it is highly significant.

In 3rd day-evening post test respiratory rate, mean difference of control and experimental group was 6.14, the calculated t- value was 12.43 and the p – value was 0.000 so it is highly significant.

6.3 CONCLUSION

This study attempted to find out the Effectiveness of music therapy on pain among children undergone surgical procedures. The children had inadequate pain management after surgery. After administration of music therapy there was a significant improvement in post operative pain management present. Music therapy was found to be effective in reducing the pain in post operative among children. The post assessment pain score was significantly lower the pre assessment. There was a no significant association between selected demographic variables and pain reduction in children undergone surgical procedures.

6.4. IMPLICATIONS

The implications drawn from the study are of vital concern to the field of Nursing including Nursing service, Nursing Education, Nursing Research and Nursing Administration.

IMPLICATIONS FOR NURSING PRACTICE

1. Nurse is the primary care giver and having responsibility in applying the holistic approach while giving the care to the patient. Music therapy show should include as a part of nursing care.

2. The study finding will help the Nursing personnel to manage the pain in children during the postoperative period.

3. Regular timings of music therapy should be maintained in postoperative care settings.

IMPLICATIONS FOR NURSING EDUCATION

Nursing is an evolving profession every practice is based on evidence based care with adequate knowledge.

1. The Nurse educator should teach about the distraction therapies, it is very effective and easy to administer.
2. Nurse educators should provide in-service education regarding benefits nonpharmacological methods (especially music therapy) of pain management.
3. Nurse educator can conduct Symposium, Seminars regarding the effect of the Music therapy play in pain management in children.

IMPLICATIONS FOR NURSING RESEARCH

1. Help the Nursing researcher to focus and develop insight on the distraction therapies
2. To do the further research in all post operative children
3. The management should motivate the researchers to find various types of distraction therapies in post operative children on the basis of cost effectiveness

IMPLICATIONS FOR NURSING ADMINISTRATION

1. The Nurse administrator should prepwere the protocol for distraction therapies especially music therapy play for the children who are admitted into the hospitals.

2. The Nurse administrator should teach about the effectiveness of music therapy to play in pain management among the post operative children.

6.5 RECOMMENDATIONS

1. A similar study can be conducted for all types of surgical patients.
2. The same study can be conducted in larger groups in different settings.
3. The same study can be used to minimize the fear and anxiety of the children.
4. Comparison study can be done by various distraction therapies.
5. This study can be done along with analgesics to improve the efficacy of the drugs.

6.6. LIMITATIONS

1) This study was done on a small sample size of 60; hence generalization is possible only for the selected subjects from selected hospital.
2) The researcher found little difficulty in getting cooperation from the children.

References

REFERENCE

Book

1. Basavanthappa B T. (2009). *Nursing research* (4 Eds). Newdelhi: jaypee publishers.

2. Basavanthappa B T. (2009). *Nursing Theories* (2 Eds). NewDelhi: jaypee publishers.

3. Beharaman, Richerd K,(2009). Nelson. *Text book of pediatrics*(19 Eds). Philadelphia: W B Saunders.

4. Dutta A K.(2007). *Advances in Pediatrics* (6 Eds). NewDelhi: Jaypee.

5. Fawcett Jacquillne.(1987). *Analysis and Evaluation of Conceptual Model of Nursing* (1 Eds). Philadelphia: F A Davie.

6. Ghai O P.(2005). *Essentials of Pediatrics* (10 Eds). New Delhi: CBS.

7. Guptha, S.P.(1991). *Statistical Methods* (3 Eds). New Delhi: Sultan Chand.

8. Julia. B George.(1996). *Nursing Theories* (3 eds). New Jersy: Prentice Hall company.

9. Polit.,Hungler. (2009).*Nursing research Principles and Methods* (8 Eds). Philadelphia. J.P: Lippincott.

10. Potter and Perry.(2006). *Basic Skills and Procedure* (6 Eds). Philadelphia: Academic publishers.

11. Marlow Dorothy R , Barbara.(2009). *Text book of Pediatric Nursing* (6 Eds).Philadelphia: W B Saunders.

12. Marilyn J Hockenberry.(2009). *Essentials of Pediatric Nursing* (8 Eds). St. Louis:
    Mosby Elsevier.

13. McGrath, J.,unruth,A.M.(1999). *Measurement and Assessment of Pediatric Pain (* 4 Eds). New York: Churchill Livingstone.

14. Teery Kyle.(2009). *Essentials of Pediatric Nursing (*1 eds). New Delhi: Wolterrs Kluwer India private Ltd.

15. Wall.,P.D. Melzack.R.(1999). *Text Book of Pain* (4 Eds). New York: ChurchillLivingstone.

16. Whaley & Wong.(1998). *Nursing Care of Infant and Children* (5 Eds). Philadelphia: Mosby Elsevier.

JOURNALS

17. Anurani.A, Augustine.et.al. (2013).Effect of Music therapy in Reducing invasive procedural pain. A Quasi experimental study, International Journal of Recent Scientific Research. 293 may; 4(5) 553, 556.

18. Alan David Kaye, Aron j, Kaye.(2008). Distraction therapy and Pain Management in
Children. Journal of Alternative.14(2):125-128

19. Andrea Windich.(2007). Effects of Distraction on pain, fear and distress during venousport access and venipuncture in children and adolescents cancer. Journal of Paediatric Oncology.2(1):8-19

20. Beyer., J.E. Wells.,N.(2006). The Assessment of Pain in children. Pediatric Clinic of North Anmerica.6(4):837-854

21. Bradis., H. Henry.,K.Ruth.,J.F.,Casper Bruoff.(2001). Complementary of Diversion therapy in pain management. Journal of Holistic Nursing.19(1):57-70

22. Conge.,I.(200). Children's experiences of Hospitalization. Journal of Child Health Care.10(4):326-336.

23. .Capril, Simona.et.al.(2007). Intiative Music as a Tx for pain and stress in children during venipuncture. A randomized prospective study. Journal of Devleopmental and behavioural pediatrics, 28 (5) 399 - 403.

23. Christian gold et.al.(2004). Effects of music therapy for children and adolescents with psychopathology; a meta analysis journal of child psychology and psychiatry, 45(6) 1054 - 1063.

24. Dianna.T.Kenay.et.al.(2004). The impact of group singing on mood coping and perceived pain in chronic pain patients attending a multidisciplinary pain clinic. Journal of Music therapy. 41(3), 241 - 258

25. Ewa Idvall.et.al, , Pain experiences and non pharmacological strategies for pain mx after consillectomy, a qualitative interview study of children and parents, International Journal 2009 Dec, 13; 308-321

26. Fisher., S.M.(200). Post Operative Pain Management in Children. jpurnal of Peri Operative Nursing.10(2):80-84

27. Gilbert.,C.A.(1999). Postoperative pain expression in preschool children: Validation of the child facial coding system. The Clinical Journal of Pain.15(3):192-200

28. Hong.Gu.He MSC MD.et.al.(2005). Chinese Nurses use of Non pharmacological method in Children's postoperative pain relief. Journal of Advance Nursing, 51(4) 335 - 342

29. Joan simons. (2012). An international study on innovation in the management of children's pain. Open university, Milton, Keynes, UK, 15-Dec 3 (2)30-35.

30. Joke Bradit.(2009). Effect of music environment on post operative pain perception in pediatric patients. The temple university graduate board 50(10)55-59.

31. Kathi Vehvilainen. Julkunen et.al.(2003). Parents use of non pharmacological ethod to alleviate childrens post operative pain at home. Journal of Advanced Nursing, 41 (4) 367 – 375

32. Rashe sruji, et.al.(2008) Pain in children assessment and Non pharmacological. International Journal of pediatrics Jan; 11(5) 46-55

33. Sendelbach, Sue.E.et.al.(2006).Effects of Music therapy on physiological and psychological outcomes for patients undergoing cardiac surgery. Journal of cardiovascular Nursing. May / June 21 (3) 194 – 200

34. Synder.et.al. Music therapy, (1999)Annual review of Nursing Research Nov 17(1) 23 - 25.

35. Stefan Nilson, RN, MSC.et.al, Children with cancer undergoing lumber puncture. A Randomized clinical trial Annual review of Nursing Research 1999 Nov 17 (2).

36. Stefan Nilsson Procedural and Postoperative pain in children. School of health Sciences, Jon kopin university.56(9)200-224.

37. Tarja poikki MNSC RN et.al(200i). Non pharmacological methods in relieving children's postoperative pain; a survey on hospital nurses in finland. Journal of Advance Nursing. May, 34 (4) 483 - 492.

38. Tiina Piira.(2000). Distraction methods in the management of children's pain : An approach based on evidence or nutrition . Journal on Children's Pain.1(1):15-20

39. Tsao., J.C.Zelter.,K.(2005). Complementary and Alternative approach for Pediatric Pain.Evidence Based Complementary Medicine.2(1):149-159

40. Thamine P.Hatem.et.al.(2006). The therapeutic effects of music in children following cardiac surgery. Journal pediatric, May/ June 82 (3)

41. White head pleaux AM.et.al.(2007). Exploring the effects of music therapy on pediatric pain, International journal 44 (5) 217-41

42. Zi-Xunon Wan.(2008). The efficacy of non-pharmacological methods of painmanagement in school age children receiving venupuncture in a pediatric department:a randomized control trial of audiovisual distraction and Psychological intervention.Swiss Med Weekly.11(1):138-139

ELECTRONIC VERSION

1. http://www.pain.com
2. http://www.nursingtimes.net.com
3. **http:**//www.ijtmb.org
4. http://www.massage online.com
5. http://www.google.com
6. http://www.pubmed.com
7. http://www.medscape.com
8. http://www.higewire.com
9. http://www.medline.com
10. http://www.painclinic.com

Appendices

APPENDIX – I

From

Mrs.A.Magamutha Begum,
M.Sc (N) I year student,
College of Nursing,
Madurai Medical College,
Madurai - 20.

To

The Director and Head of the Department,
Research Institute of Child Health Nursing,
Government Rajaji Hospital,
Madurai-20.

Through: The proper Channel

Respected Sir,

Sub : College of Nursing, Madurai Medical College, Madurai – M.Sc., (N) I year Child Health Nursing Student – Permission letter for conducting study in Surgical ward at Government Rajaji Hospital, Madurai – requested – regarding.

As per the curriculum recommended by the Tamilnadu Dr.MGR Medical University I year M.Sc (N) students are required to conduct a dissertation study. I have selected the study topic **"A study to assess the effectiveness of Music therapy on pain among children undergone surgical procedure, in Institute of Child health and Research Centre, at Government Rajaji Hospital, Madurai"** for the partial fulfillment of the PG course. I assure that I will not interfere with the routine activity of the department.

Kindly consider my request and permit me to conduct the study.

Forwarded for Consideration

Thanking you,

Yours faithfully,

Place:
Date: 6/1/14

Mrs. N. NAGARATHINAM, M.Sc., (N)
Lecturer in Pediatric Nursing
College of Nursing
Madurai Medical College
Madurai-625 020.

(A.MAGAMUTHABEGUM)

6.1.14
for DIRECTOR I/C
INSTITUTE OF CHILD HEALTH &
RESEARCH CENTRE
GOVT. RAJAJI HOSPITAL
MADURAI - 625 020

APPENDIX – II

Ref. No. 68/E4/2/2014, **Govt. Rajaji Hospital,**
Madurai.20. Dated: 26.02.2014

Institutional Review Board / Independent Ethics Committee.
Capt. Dr.B. Santhakumar, M.D., (F.M.,) deanmdu@gmail.com
Dean, Madurai Medical College &
Govt Rajaji Hospital, Madurai 625020. **Convenor**

Sub: Establishment-Govt. Rajaji Hospital, Madurai-20-
Ethics committee-Meeting Minutes- for February 2014
Approved list - Regarding.

The Ethics Committee meeting of the Govt. Rajaji Hospital, Madurai was held on 07.02.2014, Friday at 10.00 am to 12.00.noon at the Anaesthesia Seminar Hall, Govt. Rajaji Hospital, Madurai. The following members of the committee have attended the meeting.

1.Dr.V. Nagarajan, M.D., D.M (Neuro) Ph: 0452-2629629 Cell.No 9843052029 nag9999@gmail.com	Professor of Neurology (Retired) D.No.72, Vakkil New Street, Simmakkal, Madurai -1	Chairman
2. Dr.Mohan Prasad , M.S M.Ch Cell.No.9843050822 (Oncology) drbkcmp@gmail.com	Professor & H.O.D of Surgical Oncology(Retired) D.No.32, West Avani Moola Street, Madurai -1	Member Secretary
3. Dr. Parameswari M.D (Pharmacology) Cell.No.9994026056 drparameswari@yahoo.com	Director of Pharmacology Madurai Medical College	Member
4. Dr.S. Vadivel Murugan, MD., (Gen.Medicine) Cell.No 9566543048 svadivelmurugan_2007@rediffmail.com	Professor& H.O.D of Medicine Madurai Medical College	Member
5. Dr.S. Meenakshi Sundaram, MS (Gen.Surgery) Cell.No 9842138031 drsundarms@gmail.com	Professor & H.O.D of Surgery Madurai Medical College	Member
6. Mrs. Mercy Immaculate Rubalatha, M.A., Med., Cell. No. 9367792650 lathadevadoss86@gmail.com	50/5, Corporation Officer's quarters, Gandhi Museum Road, Thamukam, Madurai-20	Member
7. Thiru..Pala. .Ramasamy , BA.,B.L., Cell.No 9842165127 palaramasamy2011@gmail.com	Advocate, D.No.72.Palam Station Road, Sellur, Madurai -2	Member
8. Thiru. P.K.M. Chelliah ,B.A Cell.No 9894349599 pkmandco@gmail.com	Businessman, 21 Jawahar Street, Gandhi Nagar, Madurai-20	Member

The following Projects was approved by the committee.

Name of P.G.	Course	Name of the Project	Remarks
A. Magamutha Begum	M.Sc.,(Nursing) College of Nursing, Madurai Medical College, Madurai.	A study to assess the effectiveness of music therapy on pain among children undergone surgical procedures, in Institute of Child Health and Research Center, at Government Rajaji Hospital, Madurai.	Approved

Please note that the investigator should adhere the following: She/He should get a detailed informed consent from the patients/participants and maintain it Confidentially.

1. She/He should carry out the work without detrimental to regular activities as well as without extra expenditure to the institution or to Government.

2. She/He should inform the institution Ethical Committee, in case of any change of study procedure, site and investigation or guide.

3. She/He should not deviate the area of the work for which applied for Ethical clearance.

She/He should inform the IEC immediately, in case of any adverse events or Serious adverse reactions.

4. She/He should abide to the rules and regulations of the institution.

5. She/He should complete the work within the specific period and if any

Extension of time is required He/She should apply for permission again and do the work.

6. She/He should submit the summary of the work to the Ethical Committee on Completion of the work.

7. She/He should not claim any funds from the institution while doing the work or on completion.

8. She/He should understand that the members of IEC have the right to monitor the work with prior intimation.

Member Secretary **Chairman**
Ethical Committee

26.2.14
DEAN/Convenor
Govt. Rajaji Hospital,
Madurai- 20.

24/2/14

To
The above Applicant
-thro. Head of the Department concerned

APPENDIX – III

LETTER SEEKING PERMISSION FOR VALIDATION OF CONTENT AND TOOL

From

Magamutha begum.A

II Year M.Sc (N),

College of Nursing,

Madurai Medical College, Madurai-20

To The Director,
The Department of paediatrics
The Institute of child health and Research centre
Government Rajaji Hospital, Madurai

Through the proper channel,

Respected Sir/ Madam,

Sub: Requesting opinion and suggestion of experts for validation of content and tool for **"A study to assess the effectiveness of music therapy on pain among children undergone surgical procedures in institute of child health and research centre at Government Rajaji Hospital, Madurai".**

I am final year Master degree nursing student in College of Nursing, Madurai Medical College. In partial fulfillment of master degree in Nursng, I have selected the topic for research project to submit to "The Tamilnadu Dr. M.G.R. Medical University". I request you to kindly validate the tool and content and give your expert opinion for necessary modifications.

Date:

Place: Madurai

yours sincerely,

(A.MAGAMUTHA BEGUM)

Forwarded
S. P
25/7/14
Mrs. S. POONGUZHALI
M Sc(N)., M.A., M B A., Ph.D.,
PRINCIPAL
College of Nursing
Madurai Medical College
Madurai-20.

APPENDIX - IV

CERTIFICATE OF VALIDATION

This is to certify that the tool

SECTION A – Demographic data

SECTION B – Assessment of Pain scale

prepared for data collection by A.MAGAMUTHA BEGUM, II year M.Sc (N) student, College of Nursing, Madurai Medical College, Madurai, who has undertaken the study field on thesis **"TO ASSESS THE EFFECTIVENESS OF MUSIC THERAPY ON PAIN AMONG CHILDREN UNDERGONE SURGICAL PROCEDURES, IN INSTITUTE OF CHILD HEALTH AND RESEARCH CENTER, AT GOVERNMENT RAJAJI HOSPITAL, MADURAI."** has been validated by me.

Signature of the Expert: 30/7/14.

Name: Dr. A. Helen M Perdita

Designation: Principal
Madurai Apollo CON.

Date:

CERTIFICATE OF VALIDATION

This is to certify that the tool

SECTION A – Demographic data

SECTION B – Assessment of Pain scale

prepared for data collection by A.MAGAMUTHA BEGUM, II year M.Sc (N) student, College of Nursing, Madurai Medical College, Madurai, who has undertaken the study field on thesis "**TO ASSESS THE EFFECTIVENESS OF MUSIC THERAPY ON PAIN AMONG CHILDREN UNDERGONE SURGICAL PROCEDURES, IN INSTITUTE OF CHILD HEALTH AND RESEARCH CENTER, AT GOVERNMENT RAJAJI HOSPITAL, MADURAI.**" has been validated by me.

Signature of the Expert:

Name:

Designation:

Principal
C.S.I. Jeyaraj Annapackiam College of Nursing and Allied Sciences
Merry Dew Hills, Jonespuram
Pasumalai, Madurai-625 004

Date:

CERTIFICATE OF VALIDATION

This is to certify that the tool

SECTION A – Demographic data

SECTION B – Assessment of Pain scale

prepared for data collection by A.MAGAMUTHA BEGUM, II year M.Sc (N) student, College of Nursing, Madurai Medical College, Madurai, who has undertaken the study field on thesis "**TO ASSESS THE EFFECTIVENESS OF MUSIC THERAPY ON PAIN AMONG CHILDREN UNDERGONE SURGICAL PROCEDURES, IN INSTITUTE OF CHILD HEALTH AND RESEARCH CENTER, AT GOVERNMENT RAJAJI HOSPITAL, MADURAI.**" has been validated by me.

Signature of the Expert:

DIRECTOR
INSTITUTE OF CHILD HEALTH &
RESEARCH CENTRE
GOVT RAJAJI HOSPITAL
MADURAI-625020

Name:

Designation:

Date:

CERTIFICATE OF VALIDATION

This is to certify that the tool

SECTION A – Demographic data

SECTION B – Assessment of Pain scale

prepared for data collection by A.MAGAMUTHA BEGUM, II year M.Sc (N) student, College of Nursing, Madurai Medical College, Madurai, who has undertaken the study field on thesis "**TO ASSESS THE EFFECTIVENESS OF MUSIC THERAPY ON PAIN AMONG CHILDREN UNDERGONE SURGICAL PROCEDURES, IN INSTITUTE OF CHILD HEALTH AND RESEARCH CENTER, AT GOVERNMENT RAJAJI HOSPITAL, MADURAI.**" has been validated by me.

Signature of the Expert:

Name:

Designation:

Dr. N. KARUPPASAMY, M.S.,D.L.O.,M.Ch.
Asst. Prof. of Paediatric Surgery
Govt. Rajaji Hospital, Madurai-20.
Reg. No: 46434

Date:

CERTIFICATE OF VALIDATION

This is to certify that the tool

SECTION A – Demographic data

SECTION B – Assessment of Pain scale

prepared for data collection by A.MAGAMUTHA BEGUM, II year M.Sc (N) student, College of Nursing, Madurai Medical College, Madurai, who has undertaken the study field on thesis **"TO ASSESS THE EFFECTIVENESS OF MUSIC THERAPY ON PAIN AMONG CHILDREN UNDERGONE SURGICAL PROCEDURES, IN INSTITUTE OF CHILD HEALTH AND RESEARCH CENTER, AT GOVERNMENT RAJAJI HOSPITAL, MADURAI."** has been validated by me.

SIGNATURE OF THE EXPERT

NAME: Prof. Stella Sayaya Mary. J.

DESIGNATION: Vice Principal
Matha College of Nursing
Manamadurai

DATE: 08/08/2014

APPENDIX – V

ஆராய்ச்சி ஒப்புதல் கடிதம்

உங்கள் குழந்தைக்கு அறுவை சிகிச்சை முடிந்த அடுத்த நாளில் இருந்து இரண்டு நாட்களுக்கு 20 நிமிடத்திற்கு இசை இயக்கப்படும். குழந்தையின் உடல் இயக்க அளவீடுகள் (இதயத்துடிப்பு, சுவாசம், இரத்த அழுத்தம் மற்றும் வலியின் நிலை) இவற்றில் ஏற்படும் மாறுதல்கள் கண்காணிக்கப்படும்.

பெயர் தேதி

வயது ஆராய்ச்சி சேர்க்கை எண்

இந்த ஆராய்ச்சியின் விவரங்களும் அதன் நோக்கங்களும் எனக்கு தெளிவாக விளக்கப்பட்டது. எனக்கு விளக்கப்பட்ட விவரங்களை நான் புரிந்து கொண்டு நான் எனது சம்மதத்தை தெரிவிக்கிறேன்.

இந்த ஆராய்ச்சியில் பிறரின் நிபந்தனையின்றி என் சொந்த விருப்பத்தின் பேரில் தான் பங்கு பெறுகிறேன். மற்றும் நான் இந்த ஆராய்ச்சியிலிருந்து எந்நேரமும் பின் வாங்கலாம் என்பதையும் அதனால் எந்த பாதிப்பும் ஏற்ப்டாது என்பதையும் புரிந்து கொண்டேன்.

நான் இந்த ஆராய்ச்சியின் விவரங்களை கொண்டு தகவல் தாளை பெற்று கொண்டேன். நான் என்னுடய சுய நினைவுடன் மற்றும் முழு சுதந்திரத்துடனும் இந்த ஆராய்ச்சியில் என்னையும் என் குழந்தையையும் இணைத்துக்கொள்ள சம்மதிக்கிறேன்.

கையொப்பம்

APPENDIX – VI

SECTION - A

DEMOGRAPHIC DATA

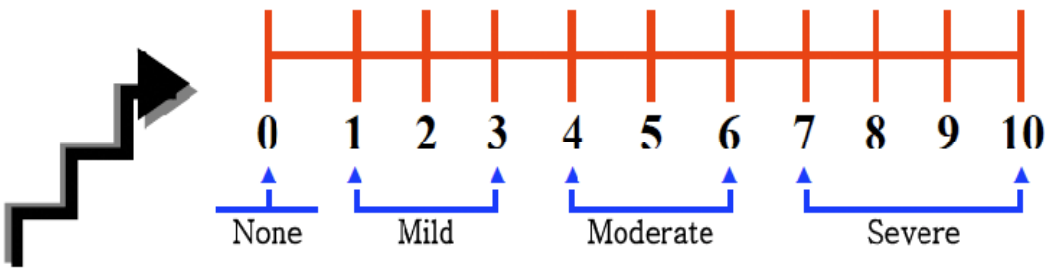
1. Age of the child
    a. 6-8years
    b. 8-10years
    c. 10 -12years
2. Gender
    a. Male
    b. Female
3. Religion
    a. Hindu
    b. Muslim
    c. Christian
    d. Others
4. Place of birth
    a. Urban
    b. Rural
    c. Semi urban
5. Education of the child
    a. Istd - IIstd
    b. III-std - IV std
    c. IV-std - V std
    d. VI and above
6. Monthly income of the family
    a. Rs.1000 - 2500
    b. Rs.2500-3500
    c. Rs.3500 - 4500
    d. Rs.4500 & above

7. Previous hospitalization
    a. IPD
    b. OPD
    c. Nothospitalization
8. Education of parents
    a. Non formal education
    b. Primary
    c. High school
    d. Higher secondary
    e. Degree
9. Food habits
    a. Veg
    b. Non-veg
    c. Natural food
    d. Others
10. Music hearing habits
    a. Through TV
    b. Through radio
    c. Cell phone
    d. All the above

SECTION –B

NUMERICAL PAIN SCALE

Scoring Method



Data Scoring

0	No Pain
1-3	Mild Pain
4-6	Moderate pain
7-10	severe pain

Assessment of pain and Physiological Measures

Instructions :

The observation will be recorded by the Investigator using reliable instruments

Aim:

Assess the pain Heart rate, Respiratory rate and Blood Pressure before and after music therapy

Physiological parameters

Date	No of Post. Op. day	Time	Pre Test				Time	Post Test			
			Pulse	Respiration	Blood pressure	Pain score		Pulse	Respiration	Blood pressure	Pain Score
	2nd										
	3rd										

APPENDIX - VII

பகுதி - அ

தன்னிலை விபரக்குறிப்பு

மாதிரி எண்:

1. குழந்தையின் வயது (ஆண்டுகளில்)

   அ. 6 - 8 ☐ ஆ. 8 - 10 ☐

   இ. 10 - 12 ☐

2. பாலினம்

   அ. ஆண் ☐ ஆ. பெண் ☐

3. மதம்

   அ. இந்து ☐ ஆ. முஸ்லீம் ☐

   இ. கிறிஸ்டியன் ☐ ஈ. மற்ற வகுப்பினர் ☐

4. பிறப்பிடம்

   அ. நகரம் ☐ ஆ. கிராமம் ☐

   இ. நகர்புறப்பகுதி ☐ ஈ. குக்கிராமம் ☐

5. குழந்தையின் கல்வி

   அ. 1 - 2 ☐ ஆ. 3 - 4 ☐

   இ. 4 - 5 ☐ ஈ. 6க்கு மேல் ☐

6. மாத வருமானம்

   அ. ரூ.1000 முதல் 2500 வரை ☐ ஆ.ரூ.2500 முதல் 3500 வரை ☐

   இ. ரூ.3500 முதல் 4500 வரை ☐ ஈ. ரூ.4500 மற்றும் அதற்கு மேல் ☐

7. முந்தைய மருத்துவமனை அனுமதி

   அ. புற நோயாளி மட்டும் ☐ ஆ. இல்லை ☐

   இ. உள்நோயாளி மட்டும் ☐

8. பெற்றோரின் கல்வி

   அ. ஆரம்பக்கல்வி ☐ ஆ. நடுநிலைக்கல்வி ☐

   இ. உயர்நிலைக்கல்வி ☐ ஈ. கல்லூரி ☐

9. உணவு பழக்க வழக்கம்

   அ. சைவம் ☐ ஆ. அசைவம் ☐

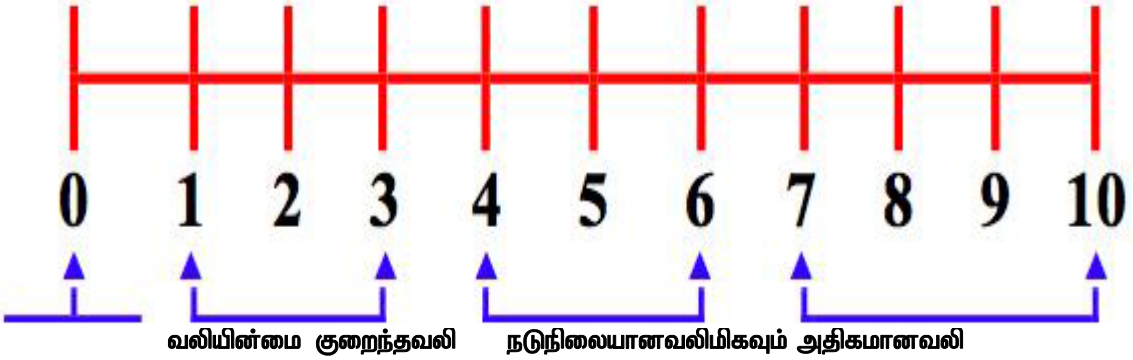
10. இசை கேட்கும் பழக்கம்

    அ. தொலைக்காட்சி மூலம் ☐ ஆ. வானொலி மூலம் ☐

    இ. கைபேசி மூலம் ☐ ஈ. மேற்கண்ட அனைத்தும் ☐

பகுதி - ஆ

எண் வலி மதிப்பு அளவீடு



மதிப்புஅளவீடு

0	வலியின்மை
1-3	குறைந்தவலி
4-6	நடுநிலையானவலி
7-10	மிகவும் அதிகமானவலி

APPENDIX - VIII

CERTIFICATE OF ENGLISH EDITING

TO WHOMSOEVER IT MAY CONCERN

This is to certify that the dissertation by **A.MAGAMUTH BEGUM** II year M.Sc., (N) student, College of Nursing, Madurai Medical College, Madurai, who has undertaken by study field on Dissertation entitled **"A STUDY TO ASSESS THE EFFECTIVENESS OF MUSIC THERAPY ON PAIN AMONG CHILDREN UNDERGONE SURGICAL PROCEDURES, IN INSTITUTE OF CHILD HEALTH AND RESEARCH CENTER, AT GOVERNMENT RAJAJI HOSPITAL, MADURAI."** has been edited for English language appropriateness.

26.07.14

T. VENKATESH M.A., B.Ed., M.Phil., MA (Eng)
English Graduate Teacher
Muthalammen Hindu High School
Vadaipudupatty, Annanji Post
Periyakulam Tk., Theni Dt.-625 531

NAME: T.VENKATESH

DESIGNATION: Graduate teacher (English)

DATE: 26.07.2014.

APPENDIX – IX

CERTIFICATE OF TAMIL EDITING

TO WHOMSOEVER IT MAY CONCERN

This is to certify that the dissertation by **A.MAGAMUTH BEGUM** II year M.Sc., (N) student, College of Nursing, Madurai Medical College, Madurai, who has undertaken by study field on Dissertation entitled **"A STUDY TO ASSESS THE EFFECTIVENESS OF MUSIC THERAPY ON PAIN AMONG CHILDREN UNDERGONE SURGICAL PROCEDURES, IN INSTITUTE OF CHILD HEALTH AND RESEARCH CENTER, AT GOVERNMENT RAJAJI HOSPITAL, MADURAI."** has been edited for Tamil language appropriateness.

NAME: Tmt M. SARADHA,

DESIGNATION: Head Mistress [Tamil]

DATE: 28.7.14

28.7.14

HEAD MASTER
GOVT. HIGH SCHOOL
T. KALLIPATTY - 625 601
THENI DIST

APPENDIX - X

Mechanism of pain.

Tissue damage caused by surgery generates a series of complicated electrical and chemical events in a patient's body. Small nerve endings in the tissue conduct nerve impulses along nerve trunks toward the spinal cord and continue as pain flows toward brain centers, ending at the cerebral cortex.

The perception of tissue damage as pain is divided into these phases:

- Transduction,
- Transmission,
- Modulation,
- Perception

In ***transduction*** the mechanical, chemical, or thermal stimulus causing the tissue damage results in electrochemical activation of the nerve endings. The tissue damage stimulates neurotransmitters, which either sensitize the tissue to other stimuli or cause tissue stimulation directly.

In ***transmission*** peripheral sensory nerves transmit impulses to the spinal cord and from here, by means of neurotransmitters, to the thalamus and on to the cerebral cortex.

The ***modulation phase*** regulates pain in the nervous system.t

The fourth phase in the transmission of pain is ***perception***, which is a subjective response to the function of neurons transmitting pain (Dahl & Kehlet 2006; Heiskanen & Karjalainen 2006). Pain stimuli travel to the central nervous system via pain axons Aδ (delta) and C fibers. Aδ fibers are myelinated and C fibers are unmyelinated nerves. In Aδ fibers the pain stimulus travels 4 rapidly and produces a sharp pain sensation in the brain. The pain stimuli transmitted by C fibers are slower than Aδ

fibers and are sensed as a burning or aching pain (Heiskanen & Karjalainen 2006; Kalso 2002).

GATE CONTROL THEORY MADE UP OF

Melzack and Wall presented the first version of the Gate-control theory. They postulated that when injury occurs, 'A' delta and 'C' fibers are stimulated and deliver impulses to brain via the substantial gelatinosa in the spinal cord, and that this area of the spinal cord controls the flow of these nociceptive impulses. They suggested that this control mechanism is influenced by a number of factors, which could inhibit or facilitate the passage of the pain impulses and used the analogy of a gate being able to open or close to describe the concept. They caused experimental and clinical evidence to build their theory and suggested that the 'gate' could be closed by mechanical pressure stimulating 'A' beta fiber, descending inhibitory impulses from the brain, and cognitive control. The theory implies that the nociceptive input is subjected to a modulating influence before it evokes pain perception and pain will occur if the nociceptive input exceeds that of the inhibitory mechanisms Using further evidence, the gate control theory of pain was extended to include a motivational dimension and proposed that pain had three components:

1. A discriminative sensory component primarily influenced by rapidly conducting spinal system.
2. A motivational drive and the unpleasant affect characteristic of pain, such as fear and emotional responses to pain.
3. A cognitive component based on the analysis of the input, past experiences and the meaning of the pain.

Surgical incision

They acknowledge that every person with pain has a complex, multidimensional and unique experience. Their experiences are influenced by the factors such as post-operative pain, pain after ambulation, rest.

Nociceptive Impulses

The post operative pain is transmitted through the nociceptive receptors situated in the substantial gelatinosa, which in turn gets situated and transmits the pain impulse, thus the patient experience pain.

Persived Pain Intensity.

The perceived pain intensity is expressed as anger, anxiety and depression (patient's subjective feeling). Their influencing factors provoke mood changes which are expressed as anger, anxiety and depression. Although these three are the independent components, yet mutually support and feed one another, as well as enhance pain perceptions.

Music Therapy.

There are three possible ways that music may modify pain (Magill-Levreault, 1993).

1. **Affective**: Music may alter mood disturbances associated with long term and life threatening illnesses such as anxiety, depression, fear, anger, and sadness. Music can lift depressive symptoms, promote relaxation, and thus diminish tension and anxiety.
2. **Cognitive**: Associative qualities of music provide a means of distracting attention away from pain often creating images and carrying a person's thoughts away from

the noxious stimuli. Music provides a mechanism to improve patients' sense of control.

3. **Sensory**: Sensory component of music may have effect on sensory component of pain through counter- stimulation of the afferent fibers.

Diversion

Music therapy, when repeatedly administrated gradually creates diversion, which in turn relaxes the mind and changes the mood. It can reduce pain intensity, length of hospital stays and improve patients' quality of life. Therefore goals of music therapy range from reduction of psycho physiological stress, pain, anxiety and isolation to modulation of mood and behavior modification. Music therapy will help in the activation of 'C' fibers, which has caused the inhibition of transmission of pain impulses.

Patient Opinion.

The patient's opinion regarding the diversion of pain with the music therapy can be assessed by opinonnaire, which may be manifested as Interesting- not interesting, relaxation-no relaxation, effective- not effective, pain reduced- pain not reduced.

APPENDIX – XI

THE VALLIAMMAL INSTITUTION (TVI)

11/6 B.B. Road 2nd St., Pankajam Colony , Madurai-625 009.
✆ 98942 49630; 98430 40226 email: ananthibetsy@rediffmail.com

Reg. No. PCC/39/June 14/275

Date: 11/06/14

Certificate Course in Basic Counselling Skills and Music Therapy

This is to certify that ..MAGAMUTHA BEGAM .A..... *has completed our* **CERTIFICATE COURSE IN BASIC COUNSELLING SKILLS AND MUSIC THERAPY** *(24 hrs Part-time Education Programme designed and offered by experts) by effectively participating in theory & practical classes and successfully completing all the exercises. She has been placed in First Class*

THE VALLIAMMAL INSTITUTION (TVI)
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Pankajam Colony ,
Madurai-625 009
Ph: 4210258

Prof. Dr. S. Jeyapragasam M.Sc.,M.A.,M.A.,Ph.D.,
Director
Rajarajan Institute of Science (RISE)

Dr. B. Ananthavalli M.Sc.,M.A.,M.Phil.,Ph.D.,
Director & Secretary
The Valliammal Institution (TVI)

APPENDIX – XII